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THE

# MEDICAL RECORD

*A Weekly Journal of Medicine and Surgery*

EDITED BY

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# The Medical Record

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## Original Articles.

### THE THERAPEUTIC VALUE OF OXYGEN INHALATION, WITH EXHIBITION OF ANIMALS UNDER HIGH PRESSURE OF OXYGEN.[1]

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MR. PRESIDENT AND FELLOWS OF THE ACADEMY: The subject of my paper this evening is: "The Therapeutic Value of Oxygen Inhalation," with experimental demonstration of the effects upon animals of continued inhalation of oxygen under very high pressures.

With regard to the therapeutic use of oxygen, I present nothing especially new; but I have been impressed by the fact that this agent, which is by many considered invaluable, by other equally competent observers is rated as worthless, and by others, again, is employed from time to time in an indefinite way, with but little thought as to the real nature of its effects. For example, it is given for anæmia for five or ten minutes, two to three times a day, greatly diluted, and it is given pure for consecutive hours in dyspnœa arising from very diverse causes.

It is the object of my thesis to discuss briefly the physical and physiological problems associated with oxygen inhalation, and to suggest certain points for discussion which may enable us to formulate more definite views than at present prevail.

The experiments to be directly recounted are as yet incomplete, and the conclusions which they beget may possibly require modification in the light of additional trial.

The fundamental facts bearing upon the problem of absorption of oxygen gas are familiar. I will, therefore, merely sum them as concisely as possible.

1. The normal atmospheric pressure is (practically) 15 pounds to the square inch.

2. The gases, oxygen and nitrogen, exist in the atmosphere, each under a "partial pressure" by which the oxygen represents 3 pounds, and the nitrogen 12 pounds, corresponding to their normal admixture in the air in the proportion (in round numbers) of one part of oxygen to four of nitrogen. If oxygen be allowed to completely replace the nitrogen of the air, it, of course, exerts the entire pressure of 15 pounds.

The question arises, Does such an atmosphere, namely, 15 pounds to the square inch of pure oxygen, really cause more oxygen to be absorbed by the blood? In answer to this question, the following statements have long been accepted by physiologists as positively proven:

1. The hæmoglobin of the red blood-disks has a remarkable affinity for oxygen.

2. In addition to the oxygen, which forms a fixed part of its composition, hæmoglobin carries a varying quantity of "respiratory oxygen" in loose chemical combination, which is readily absorbed from the air in the lungs, and which is parted with in equal readiness in the systemic capillaries.

3. The blood, while passing through the lungs under normal conditions, subjected to a pressure of one atmosphere of air, becomes very nearly—fully $\frac{19}{20}$ — saturated with respiratory oxygen.

4. The plasma carries but very little oxygen—not over two per cent. by volume.

5. The atmospheric air, in saturating hæmoglobin with oxygen, forming oxy-hæmoglobin, loses (in round numbers) 5 parts of oxygen out of the 21 parts per 100 which it contains, returning, therefore, 16 parts of unused oxygen by exhalation. In breathing pure oxygen, will the hæmoglobin still appropriate but 5 parts of that gas, leaving 95 parts per 100 unused? It will; therefore, if more oxygen is taken into the blood when the oxygen exists under a total pressure of 15 pounds, it must enter the plasma, and not the hæmoglobin.

Reduced hæmoglobin absorbs oxygen a little quicker in pure oxygen gas than in air; but the difference is inconsiderable, and the quantity absorbed is ultimately the same in experiments outside of the body.

Can the blood plasma absorb more oxygen in an atmosphere of pure oxygen exerting 15 pounds of pressure? Let us for a moment admit that it may. Obviously, one of two results must occur: first, the additional oxygen may remain in the plasma so long as the tension of oxygen inhaled is maintained at the increased rate, producing no special effect, and it would be exhaled again as soon as the tension of the inhaled oxygen is lowered to the normal; in the same manner that nitrogen is known to be absorbed in small amount (two per cent.) by the plasma, to be eliminated again unaltered.

Or, secondly, the increased amount of oxygen absorbed might occasion greater oxidation in the tissues, with increased metabolism, represented by larger quantities of $CO_2$, $H_2O$, and other products.

Very careful experiments have been made to determine whether these waste materials are increased by continued inhalation of pure oxygen at 15 pounds of pressure, and it has been conclusively shown that they are not increased to any appreciable extent. Moreover, it has been proved that the blood plasma really absorbs but very little additional oxygen under any pressures which are compatible with maintenance of life. Bert. in his classical work upon "La Pression Barométrique," has shown that at 1 atmosphere the blood absorbs 20 volumes per cent. of oxygen; at 2 atmospheres it absorbs 0.9 volume per cent. additional; at 3 atmospheres, 0.7 volume per cent.; at 8 atmospheres only 0.1 volume per cent.; and the total additional oxygen absorbed under a pressure of 10 atmospheres amounts to only 3.4 volumes per. cent.

All experiments upon blood removed from the body unite in demonstrating that in pure oxygen, under one atmosphere of pressure, the blood takes up scarcely any more of the gas than it appropriates from common air. Quinquand found that in the dog arterial blood contained only 1 volume per cent. more oxygen after inhaling pure oxygen at a pressure of one atmosphere, and venous blood gained $2\frac{1}{2}$ volumes per cent. of oxygen.

Is it possible that the simple problems of absorption of oxygen by the blood, when shaken in a retort, are modified when the gas has to reach the plasma through the medium of the lungs? Let us consider the latter condition.

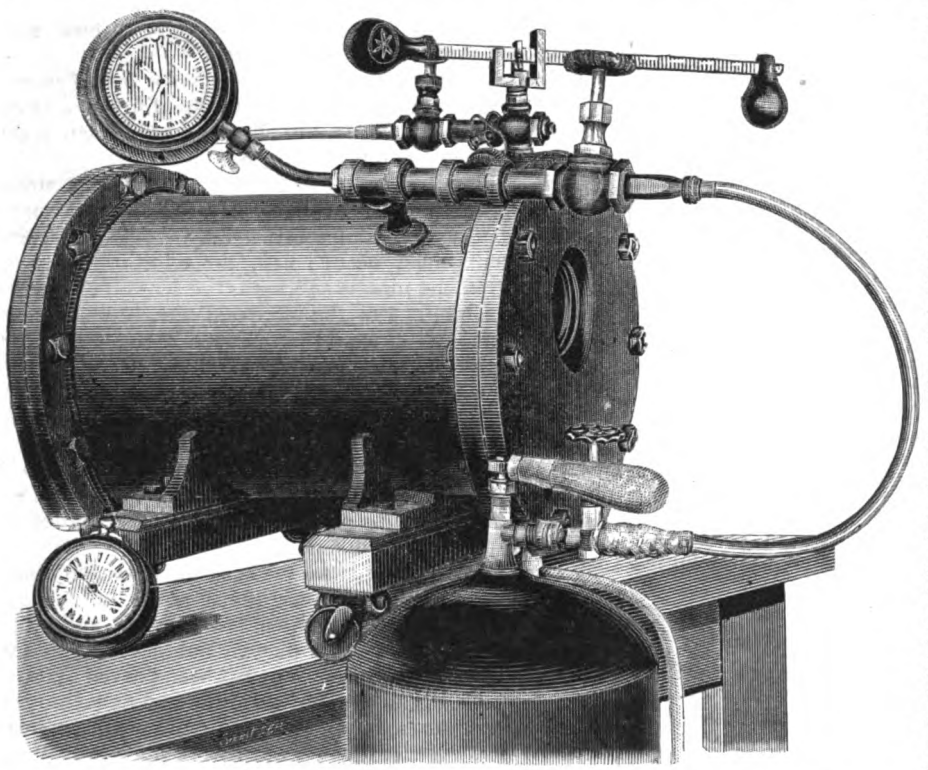
The amount of any gas absorbed by a liquid through a membrane depends upon: 1, the specific nature of the gas and of the liquid; 2, the temperature; 3, the density of the membrane; 4, the gas-pressure.

It is possible that slight variations in the composition of the plasma may influence to a small degree the amount of oxygen absorbed. The change in temperature of oxygen on entering the lungs, even under compression, is not sufficient to materially affect the rate of absorption. The density of the membranes, namely, the epithelium of the air-cells, is so

[1] Read before the New York Academy of Medicine, May 16, 1889.

especially the walls of the pulmonary capillaries, may conceivably vary with the amount of blood present, and influence the gas absorption.

In some of the older text-books of physiology the statement is made that animals cannot live in an atmosphere of pure oxygen, because it rapidly burns up their tissues as it burns a candle; *i.e.*, their greatly increased metabolism causes rapid tissue waste, convulsions, and death. This is a still prevalent popular fallacy. Later experimenters have claimed that the convulsions, etc., were due to retention of $CO_2$ and other waste products (possibly volatile ptomaïnes), which are reinhaled. Dr. Andrew H. Smith showed, by a series of most instructive and exhaustive experiments, made in 1869–70, that so long as the exhaled $CO_2$ and nitrogenous waste are removed, animals live for many hours in pure oxygen under ordinary atmospheric pressure, without any symptoms or appreciable change.



I have repeated many similar experiments, and demonstrated that the same is true with regard to inhalation of oxygen under pressures not exceeding 1½ or 2 atmospheres. Beyond this pressure the mechanical effects upon the circulation and the interference with proper gas diffusion in the lungs become manifest late or soon, according to the degree of pressure employed.

The only effects experienced by those in health who have inhaled oxygen freely are vague and inconstant, and many of these effects may be due to the gas not being absolutely pure. Some describe a sensation of freedom about the chest, as if respiration were easier, or they speak of a feeling of warmth beneath the sternum, or of coolness, slight vertigo, warm hands and feet. More blood flows to the surface of the body sometimes, and there may be slight formication. Some incline to drowsiness, others to increased muscular activity. There is often increased appetite and consequent gain in weight. The pulse may or may not be accelerated. The temperature is usually unaltered. Uric acid is said to be diminished (Kohlmann and Eckard). I have sometimes noticed an increase in the rate of breathing while inhaling pure oxygen, but this has always been due to voluntary suction effort on the part of the patient, and it can be easily avoided by giving proper instruction.

Several deep voluntary inspirations of oxygen produce condition known as apnœa, in which the breath can be for several seconds longer than usual without discomfort. An interesting fact has been demonstrated by Bert, that, under an air-pump, animals can withstand a greater reduction of pressure in an atmosphere of pure rarefied oxygen than in an atmosphere of rarefied air. Quinquand describes uniform reduction of the pulse in animals inhaling pure oxygen amounting to from 10 to 15 beats, and a corresponding reduction of 4 or 5 respirations, and ½–1° C. reduction in temperature. Bert found increased sugar in the blood of animals kept under increased oxygen pressure. From the foregoing summary of the physics of oxygen absorption it appears that, under given conditions of healthful circulation and respiration, but very little additional oxygen can be made to enter the blood by any degree of pressure short of that which mechanically interferes with those functions. In confirmation of this statement, and before considering the effect of oxygen upon abnormal circulation and respiration, I will cite a few of the experiments recently made with the apparatus here presented.

The apparatus, which was made for me by the Delamater Iron Works in this city, is of very simple construction. It consists of an iron locomotive cylinder with one removable head. A window of ½-inch plate-glass is inserted in either end of the cylinder, so that the animals can be constantly observed. A steam-gauge records the pressure of the gas, which is admitted through a valve connected by a strong tube with an ordinary oxygen cylinder, purchased from the oxygen manufacturer. The oxygen in these cylinders is sold under a pressure of 225 pounds or more, and as the cylinders are approximately the size of my own tank (36,700 c.c.), I readily get a pressure of 100 pounds by simply opening the valve. The tank has an exhaust valve for quickly releasing the pressure. It is painted white within, and furnished with an electric light. A wire grating is arranged to keep the animal off the floor and allow room for urine, and for materials used to absorb waste products. Food can be put in, and the animal may be left comfortable for any desired period. The exhalations may be tested at any time by collecting a little of the air from the exhaust valve. The removable head is so large that a good-sized dog can be put in through the opening. It is screwed on by many bolts, and leakage is prevented by rubber packing and red-lead. The apparatus is practically air-tight, for all the pressures at which I have used it. The character of the breathing, tracheal râles, cries, etc., can be very well auscultated through the iron wall of the tank and dense air within.

(Many interesting details of the following experiments are omitted for the sake of brevity.)

*Experiment* 1.—Two pigeons and a monkey were together placed in the tank and oxygen was added, 5 pounds at a time, at intervals of 5 minutes, until 30 pounds were reached, *i.e.*, 2 atmospheres of oxygen + 1 of air already present—three atmospheres in all. Up to this pressure no effect at all was produced except that the pigeons seemed drowsy, while the monkey was lively and playful. The monkey then showed moderate dyspnœa with mouth-breathing, and respiration rose from 35 to 70. The oxygen pressure was raised to 35 pounds, and in 5 minutes the monkey had a slight convulsion. The pigeons remained unaffected.

The pressure was gradually blown off, the convulsions

ceased, and after remaining 45 minutes in the tank the animals were released and appeared normal. The monkey's temperature had fallen 1¼° F. The temperature of one pigeon fell 4½° F.; that of the other 6° F. No evacuation of urine or fæces. Hæmoglobin normal.

This experiment merely shows what has been demonstrated by others, that animals can exist comfortably in an atmosphere composed of more than two-thirds oxygen, under moderately increased pressure, without any discernible alteration in their functions or demeanor, until the pressure exceeds three atmospheres.

*Experiment* 2.—A second monkey was kept in the tank for 1¼ hour under 11 pounds of additional oxygen pressure. No effect, except that he appeared sleepy and rather bored. On removal the rectal temperature had fallen 1½° F. As the tank air was blown off a pigeon was placed in a jar of it, and in 6 minutes it had convulsions, although a candle burned brightly in the same jar. A counter-test was made by placing another pigeon in fresh air in another jar of the same size. In the same time, 6 minutes, the second pigeon had no dyspnœa, yet a candle was extinguished at once in the jar.

The fact that the first pigeon had a convulsion in an atmosphere that relighted a paper, is probably due to poisoning from the monkey's nitrogeneous waste.

*Experiment* 3. — A guinea-pig, a dog, and an alligator were together placed in the tank, and oxygen was rapidly added, until in 15 minutes a total pressure of 5 atmospheres was reached. The dog then had a convulsion. The pressure was released slowly, and after 40 minutes it registered 20 pounds. The animals all seemed comfortable, so oxygen was added again up to 45 pounds, or 4 atmospheres in all. After a few minutes the valve was slowly opened and the animals were released, having remained 1½ hour in the tank. The pig and dog both died in 3 minutes in convulsions. Autopsies showed great pulmonary congestion in both animals, and over-distention of the right heart. The other viscera were exsanguinated. The venous blood was nearly black. The dog's temperature had fallen 9° F., and the pig's 14° F. The alligator's rose from 51½° (external air 66°) to 75° or 23¾° F. The alligator survived.

This experiment, with several others, shows that the higher animals are sooner affected by pressure than the lower. The monkey was asphyxiated before the pigeons, the dog before the guinea pig.

The remarkable fluctuation in temperature observed in nearly all these experiments is interesting, but I do not attribute it to the influence of oxygen. I have never noticed a rise of temperature in these experiments except in cold-blooded animals, and this fact alone argues against increased tissue oxidation.

In warm-blooded animals the normal temperature averages considerably higher than in man, and fluctuations of 6° or even 10° F., which are occasioned by trivial causes, may occur without any serious attending phenomena. I have often seen a dog's temperature fall 3° or 4° from simply inhaling ether. The heat-regulating mechanism of the lower animals is far less perfect than our own. They have a greater range of temperature in individual cases. In these experiments the fall of temperature noted is undoubtedly produced merely by the profound disturbance in the circulation and consequent increased heat-loss or diminished heat-production. Moreover, the rapid release of the pressure abstracts heat from the surface of the body. The fall of temperature is equally decided in atmospheres of compressed air and of compressed oxygen. It is greatest when the pressure has been very high, where it has been suddenly removed, and when convulsions and dyspnœa have been intense. I have often noticed a similar loss of temperature produced by asphyxiating an animal under an air-pump. Therefore this remarkable heat-loss is in nowise associated with an increase in oxygen absorbed.

*Experiment* 4.—A monkey was kept in the tank for 2¼ hours, under a pressure which was gradually increased up to 45 pounds of oxygen, and then slowly diminished. The animal during all this time played about, and seemed perfectly normal. When the pressure reached zero it was suddenly raised again in 8 minutes to 51 pounds of oxygen, nearly 4½ atmospheres in all. He was kept at nearly this pressure for 45 minutes more, without appreciable effect of any kind. Just before removal, after spending 3½ hours in the tank, the animal had a slight convulsion. The rectal temperature fell 1½°.

*Experiment* 5.—Is a repetition of the preceding experiment. A monkey and pigeon were kept for over two hours in the tank under a pressure of oxygen which registered 30 pounds during most of that time. Very slight dyspnœa occurred toward the end, but no other symptoms resulted. The monkey's temperature fell 4.2°, the pigeon's only 1° F.

*Experiment* 6.—A cat was placed in the tank, and oxygen pressure was rapidly added until, at the end of an hour, it registered 90 pounds—in all 7 atmospheres. No convulsions occurred until 70 pounds of pressure was reached. After 1½ hour in all the animal was removed, and it soon died from pulmonary congestion and dilatation of the right heart. Some emphysema was found in the thinner portions of the lungs Bert states, as a result of his experiments, that at 3½ atmospheres of oxygen, animals die from asphyxia and convulsions. In this experiment, twice that pressure was borne for some time, although it ultimately proved fatal.

*Experiment* 7.—Three pigeons were kept for 1½ hour under a pressure of 40 pounds of oxygen, nearly 4 atmospheres in all. One of them alone had convulsions, and on removal it remained for some days with the muscles in a curious condition of rigidity and contracture, and all attempts at moving it threw it into violent convulsions. The bird lay on its back for four days, with neck and legs strongly flexed. The animal had had its cerebellum removed some weeks before, and I think the peculiar symptoms were due to the pressure affecting the surface of the brain unduly through the opening in the skull, rather than to any influence of the oxygen. The two other pigeons survived, and were normal.

*Experiment* 8.—A dog was kept for an hour at a pressure of 4 atmospheres, composed of three-fourths oxygen. There were a few convulsions, but the dog recovered. The rectal temperature fell 5.4° F.

*Experiment* 9.—A cat and dog were kept alive for an hour under an additional atmosphere of oxygen in a confined space, where the ordinary air would have been fatal to either animal alone in less than half that time.

*Experiment* 10.—A similar experiment was repeated, using compressed air instead of oxygen, with a like good result. Having determined the effect of high pressures of oxygen, I next tried to learn to what extent the convulsions which are common above 4 atmospheres, are caused by the pressure alone, or to what extent they might be due to some specific action of oxygen. In all the experiments thus far described, the convulsions were immediately relieved by blowing off 5 or 10 pounds of pressure. It is also noticeable that, while the pressure was being either increased or diminished, the animals evinced a certain amount of restlessness, which was usually greater when the pressure was falling, and which promptly subsided. In the following experiments the animals were subjected to exactly the same conditions upon successive days, with the exception that compressed air was used on one day, and oxygen on the next. The pressure was added or released at the same rate in each case, and the exhaled $CO_2$ was removed by a solution of KOH.

*Experiments* 11 *and* 12.—A dog weighing 22½ pounds, was subjected to rapidly increasing air pressures. A total pressure of 8 atmospheres was reached (inside of 26 minutes) before the animal had a convulsion, or even appeared discomforted. When oxygen was given the next day, at the same rate, convulsions occurred when the total pressure had reached 5 atmospheres, and when 6⅓ atmospheres were reached the convulsions became so

violent as to shake the heavy tank and threaten immediate death. It was with difficulty that he was rescued by releasing the pressure, and whereas on coming out of 8 atmospheres of compressed air the dog appeared normal, on coming out of 6½ atmospheres of oxygen he had tremors, incoördination, salivation, staring eyes, and jerky dyspnœic respiration. There were no râles in the chest. Ether was given to control the convulsions which persisted after his liberation, and he survived.

*Experiment* 13.—A further test was made the next day by allowing this dog to remain in the closed tank, breathing common air under 15 pounds pressure, until he became decidedly asphyxiated in 27 minutes, with mouth breathing and respiration, 120. Ten pounds of oxygen pressure were added, and the respiration fell to 38, with great relief of the dyspnœa. The oxygen pressure was finally raised to 45 pounds, when convulsions occurred.

*Experiments* 14 *and* 15.—A cat and dog were together placed in the tank and allowed to remain until, after 20 minutes, both animals were decidedly asphyxiated. When both animals were on the verge of convulsions, the dog's respiration being 120 and the cat's 80, 5 pounds of oxygen pressure was added, with instant relief; the dog's respiration fell to 40 and the cat's to 60. When the dyspnœa again returned after an interval, it was always relieved by adding a little oxygen until 30 pounds pressure had been reached. After 50 minutes the animals were released in good condition. The exhaled air, collected at intervals, contained a very large percentage of $CO_2$, yet a candle burned brightly in it. The next day the same animals were replaced in the tank and 22 pounds of oxygen pressure were added at once, which they bore for 45 minutes, with but slight dyspnœa toward the end.

*Experiments* 17 *and* 18.—A large cat was placed under a pressure of 55 pounds of oxygen or 4⅜ atmospheres in all, and in 2 minutes severe convulsions resulted. The next day the same animal was kept for 35 minutes under the same pressure of atmospheric air without any ill effects at all.

The day following, the animal was left in the tank for 20 minutes, when it showed intense dyspnœa (the cat's body filled $\frac{1}{10}$ of the capacity of the tank); 10 pounds of oxygen pressure were then added with immediate relief, which lasted for one hour. At the end of this time the oxygen pressure was increased to 30 pounds, and the cat remained comfortable for 3¾ hours in all. On removal a convulsion occurred, but the animal was restored by chloroform. KOH was used to absorb the $CO_2$. The rectal temperature fell 5½° F. during the experiment.

All of the experiments thus far reported were made with perfectly healthy animals. They prove that: 1. When the breathing is normal, oxygen and atmospheric air do not differ materially in effect up to about two atmospheres of pressure. 2. Both oxygen and air under pressures between ½ and 2 atmospheres relieve the dyspnœa produced by inhaling vitiated air, and oxygen has a distinctly greater effect in this regard than air. 3. The effect seems to be exerted through the respiratory centre, diminishing the rate of breathing, and improving the rhythm of the respiration.

4. Above 2 or 3 atmospheres a much greater pressure of air can be borne than of oxygen without inducing convulsions.

The cause of the convulsions is still undecided.

The cause of the ordinary normal respiratory impulses is believed, by the great majority of experimenters at the present time, to be the lack of oxygen in the blood conveyed to the respiratory centre in the medulla. Others, however, believe that the presence of excess of $CO_2$ in the blood is an equally potent factor; and there are a few physiologists who claim that the lack of oxygen excites inspiration, and that the presence of excessive $CO_2$ may excite forced expiration.

Convulsions are produced by suddenly withholding oxygen, and convulsions of a somewhat different type may be produced by inhaling a large percentage of $CO_2$. It is possible that they may be also produced by nitrogenous waste matters (probably volatile ptomaïnes?), which are either re-inhaled, or which cannot be exhaled. Whichever theory we adopt, the fact remains that the convulsions are precipitated when the pressure of the inhaled atmosphere reaches a certain maximum. I submit the following theory regarding these convulsions: That they are due to the physical law that "the diffusion constant of two gases is inversely as the pressure," and, therefore, the higher the pressure the less the rate of diffusion. In normal breathing the air in the upper part of the lungs only is exchanged mechanically, as we know. The air of the more deeply seated air-vesicles, which contains an excess of $CO_2$, is changed by diffusion at a definite rate for ordinary atmospheric pressure. If the pressure of the inhaled atmosphere, be it oxygen or common air, is greatly increased, it is more difficult, and it requires more time for the $CO_2$ to diffuse from the blood into the air-vesicles, and from the air-vesicles into the tidal air in the wider portions of the air-passages. As a result, $CO_2$ tends to accumulate in the blood, and, further, by its retarded diffusion from the residual air in the vesicles, it tends to keep back the oxygen of the tidal air from closer approach to the capillaries. Hence the blood is prevented from taking up sufficient oxygen, and at the same time its $CO_2$ and volatile nitrogenous waste matter accumulate, and convulsions result. The fact that increased oxygen pressure causes convulsions sooner than increased air pressure may possibly be due to the greater difficulty that $CO_2$ experiences in diffusing into pure oxygen highly compressed, as compared with common air; but this is at present purely hypothetical. Another very important consideration is the fact that, with greatly increased pressure the solubility of $CO_2$ in the blood is much increased, and it therefore tends to diffuse out less readily into the air-cells.

Pure oxygen under *slightly* increased pressure is beneficial, because it mixes readily enough with the $CO_2$ present in the lungs, and *a very little* more of it may be absorbed by the plasma. But under greatly increased pressure diffusion becomes too slow and difficult, and convulsions ensue.

The next problem is the discussion of the influence, upon abnormal respiration, of oxygen, inhaled under increased pressure. For the present purpose, without going deeply into the manifold exciting causes of dyspnœa, we may classify its principal varieties as follows:

I. Dyspnœa due to abnormal conditions of the air, especially to diminished oxygen supply from obstruction to the entrance of air, to increased $CO_2$ or nitrogenous waste, or to other poisonous gases.

II. Dyspnœa due to abnormal conditions of the blood, either diminished number of red disks, or diminished oxygen carrying power of the red disks—*i.e.*, diminished hæmoglobin.

III. Dyspnœa due to obstructed circulation, arising from a feeble heart, pulmonary congestion, etc., which retard the blood-current.

IV. Dyspnœa due to diminished surface of aëration for the blood, from compression of the lung by fluid, from consolidation, or other cause—as feeble expansion of the chest.

V. Dyspnœa of purely neurotic character, with normal lungs.

Regarding the latter, it may be said that there seems to be a general "respiratory sense," corresponding to the general sense of hunger, thirst, etc. We mentally refer dyspnœa to the chest, as we mentally refer thirst to the throat; yet in cases of gastric fistula, thirst is relieved by injecting water into the stomach. Thirst may also be relieved by immersing the body in water.

It is a matter of common observation, to see certain cases of pneumonia or of phthisis in which the patient, while perfectly conscious, feels no distress in breathing, yet the rhythm and rate of respiration are wholly abnormal. On the other hand, there may be decided subjective dyspnœa without discoverable lesion in the respiratory

system, such as occurs in hysteria, and as a premonition of uræmia, etc.

I am at present engaged upon a series of new experiments by which some of these varieties of dyspnœa are artificially induced, and then the effect of inhalation under pressure of oxygen is studied.

A few of these experiments I will report:

*Experiments* 19 *and* 20.—In a cat with both vagi cut, there was no appreciable dyspnœa so long as the animal remained quiet and had plenty of air. The cat was shut in the tank, breathing confined air, uncompressed, until intense dyspnœa resulted of the well-known cut-vagus type. Inspiration became very deep and prolonged, the nares and mouth were wide open, every accessory respiratory muscle was called into action, and an exaggerated pause occurred between the end of inspiration and beginning of expiration, the latter being sudden and forcible. In addition there were tremors of the head and legs; 7 pounds of oxygen pressure were then added, with instant relief of all the symptoms. The cat was removed after fifteen minutes, and allowed to rest until the next day, when it was still alive with quiet respiration. The animal was then urged to walk a few steps until intense dyspnœa occurred as before. On being placed in the tank in this condition, compressed air was added under the same pressure as the oxygen used on the previous day. Instead of producing relief the dyspnœa was augmented, and when the pressure was increased to three atmospheres the dyspnœa became most intense. There were loud tracheal râles audible through the wall of the tank, which transmits respiratory sounds with remarkable clearness. Restlessness and weakness became extreme. On releasing the animal it was restored to its previous condition of comfort. In these experiments the pressure effects were very decided.

*Experiment* 21.—It took forty minutes for the same animal to acquire marked dyspnœa, with both vagi cut, in confined air at one atmosphere, whereas two atmospheres of air produced immediate severe dyspnœa. The interesting feature of these experiments is that the dyspnœa which occurred in an exaggerated form after section of both vagi and poisoning by confined air, was relieved by adding seven pounds pressure of oxygen to the already foul air.

*Experiment* 22.—A young but large dog, with a cannula ½-inch in diameter inserted in right pleural cavity. When the cannula was closed with a cork, respiration was normal; when it was open there was great dyspnœa, and respiration was increased to 66 and shallow. The dog was placed in the tank with the cannula open, and 15 pounds pressure of oxygen were added. In twenty minutes respiration fell from 66 to 32, and became deep and very labored. The oxygen was blown off and the respiration rose to 47. Then 40 pounds pressure of common air were added. The animal again became very uneasy and the respiration slower and deeper. In fifteen minutes more he was liberated, and the cork was replaced.

This experiment demonstrates that, when an animal is deprived of half the normal breathing-space by collapse of one lung produced by a free opening in the pleura, both compressed oxygen and compressed air reduce the frequency of respiration, but add greatly to the distress of the animal from the mechanical effects of the pressure. If there was any specific difference between the oxygen and common air in this case, it was obscured by the evil mechanical effects of the increased pressure.

*Experiment* 23.—In another experiment I produced extreme dyspnœa from local pulmonary congestion from injection of $AgNO_3$ solution into the lung tissue. The animal (a cat) was placed in the tank when the respiration was 150 and very shallow; there was great prostration, the animal being scarcely able to stand. Ten pounds of oxygen pressure were added, and in three minutes respiration was slowed to 80 and became much fuller, and the animal seemed greatly relieved and stronger. On increasing the oxygen pressure to 20 pounds the respiration fell to 64, the cat stood up, licked her paws, and moved about in a natural manner. After an hour under this pressure the cat was liberated, and she became immediately worse. The respiration increased, and the cat again became so feeble as to constantly lie down. In this case of acute pulmonary congestion the inhalation of oxygen under pressure gave remarkable relief to the dyspnœa and general distress. Autopsy showed only one lobe to be congested on the side of the injection.

*Experiment* 24.—Dog, weight 16½ pounds. I injected 550 c.c. of water into a dog's right pleural cavity to compress the right lung and diminish the space for aëration of the blood. Respiration became very deep and labored, and while at rest the rate was 35. While exercising, respiration became 100 and shallower. The animal was placed in the tank, and 10 pounds were added of a mixture of 4. oxygen + 1 ($N_2O$). In three minutes respiration fell from 60 to 48, and the dog seemed much relieved and very drowsy. After 15 minutes the pressure was gradually increased to 45 pounds, when a violent convulsion occurred in four minutes. This was controlled by releasing the pressure slowly. After remaining one hour in the tank, the animal was removed. The temperature had fallen 4¼° F.

In this experiment, where the area for aërating the blood was diminished by one half, the respiration became much more natural on inhaling a mixture of 4. oxygen + 1 ($N_2O$) under pressure. No different effect was noticed in using this mixture from that obtained by pure oxygen.

*Experiment* 25.—A puppy weighing 14½ pounds was bled to the extent of 2½ ounces. Respiration became very irregular, and the animal appeared very weak. He was given the same mixture of 4. (O) + 1 ($N_2O$) under various pressures. At pressures under 10 pounds he was much relieved, but under three atmospheres the dyspnœa was greatly increased, and he became too feeble to stand.

*Experiments* 26 and 27.—A dog weighing 16¾ pounds was bled to the extent of 10 ounces. The resulting dyspnœa was relieved by adding 4 pounds of pressure of the mixture used in the previous experiments. Subsequently the dyspnœa returned, and being again placed in the tank under 10 pounds of oxygen pressure added to the air already present, his condition improved in a marked degree. But when 30 pounds of oxygen pressure were added, the dyspnœa became intense. It was again relieved by reducing the pressure.

These experiments have not been performed with high pressures because we can make any clinical use of such pressures. but in order to find the limits of the maximum effect of oxygen, as an aid to inferring the clinical results which are possible under one atmosphere of pure oxygen, *i.e.*, in which the oxygen tension is increased to 15 pounds. The experiments, although as yet incomplete, certainly demonstrate that oxygen under moderately increased tension does aid certain types of dyspnœa.

We now come to the second division of my subject, the Therapeutic Value of Oxygen Inhalation.

It is not very feasible to give oxygen to man under pressures above that of the atmosphere. My own experience in this regard is confined to the use of compressed air in a few severe cases of spasmodic asthma, which were greatly improved, I think, rather by the general air-pressure, than by the slight increase in oxygen tension produced by an additional atmosphere.

Dr. Valenzuela, in a paper read before the Royal Academy of Medicine of Madrid, two years ago, reports the use of oxygen inhaled under 7 times the ordinary oxygen tension of the air (*i.e.*, 1½ atmosphere of pure oxygen). Several cases of pneumonia in man were greatly benefited. At the end of an hour in one case the temperature fell 1.7° C. He also speaks of reducing the temperature of rabbits having septicæmia, by inhalation of oxygen under increased tension. For reasons given earlier in this paper, I believe that the reduction of temperature was due to pressure effects, and that it would have occurred equally had compressed air been used instead of oxygen.

The inhalation of oxygen is no new remedy. Its therapeutic use was suggested by its discoverer, Priestley, in 1774. But it has suffered much from the extolment of quacks, who take advantage of the popular knowledge that without oxygen there is no life, and the belief that, consequently, the more oxygen is given, the more vigor results, and that ozone is a public boon even beyond oxygen in power. Whereas, it is a physiological impossibility to take ozone into the blood through the lungs, and even were it possible, its presence there is incompatible with the continuance of the circulation (Oertel).

The legitimate clinical use of oxygen is, however, constantly advancing, not after the manner of so many new remedies that spread throughout the country, offering fame to all who first report their trial to-day, and which pass into oblivion to-morrow; but the advance is steady and convincing.

Until recently, oxygen could only be obtained from illuminating companies, and those who have given it trial in impure forms, and without system, have generally misjudged it. To-day it is prepared by many manufacturers, exclusively for medical use, with guarantee of its purity, and many of our hospitals have oxygen generators of their own.

Oxygen is employed therapeutically, 1, as a curative measure in diseases of the blood, circulation and respiration; and, 2, as a palliative measure in extreme subjective and objective dyspnœa.

The therapeutic use of oxygen is now very prevalent in the United States, and in Continental Europe. Two or three hundred thousand gallons are inhaled yearly in this city alone. During the cholera epidemics of Toulon and Marseilles, in 1886, it proved a most useful adjunct to other treatment. It is employed with success in many cases of opium narcosis, coal-gas asphyxia, chloroform poisoning, etc.

Decided success is claimed for its use in anæmia, chlorosis, leukæmia, slow convalescence, and in wasting diseases.

Hundreds of cases of dyspnœa and cyanosis complicating pulmonary diseases, have been reported in the journals of the past few years, as benefited by oxygen inhalation.

In 1888 it was ordered in Paris that oxygen be kept in readiness at each of the 16 pavilions erected on the banks of the Seine for the resuscitation of the drowned (*Lancet*, June 16, 1888, p. 1273), and it was further advised to keep it at all the police and fire stations. The literature of the therapeutic use of oxygen shows decided improvement in the intelligence and care with which it is given, besides affording such convincing evidence of its value in certain classes of disease, that no consideration of expense or trouble should weigh against it.

Adopting the previous classification of dyspnœa, I will refer to a few illustrative cases within my own experience.

I. *Oxygen in anæmia, chlorosis, etc.*—Oxygen is given for these affections often in a greatly diluted form, for 5 or 10 minutes, two or three times a day. If those cases be excluded which will recover anyway, and those which are simultaneously under other treatment, there is little evidence of any specific advantage of oxygen over good fresh air. In cases of this kind in which I have used oxygen, I have never employed it alone, but I have failed to note any benefit from it as an adjunct to iron and other remedies. It does not seem quite rational to suppose that enough oxygen can enter the system in this way, in so brief a time, to produce anything more than a momentary effect. Little or no additional oxygen enters the plasma under these conditions (of dilution, etc.), and the red corpuscles which are at fault have, in the ordinary air, more oxygen than they can appropriate. Besides, at least 10 inspirations are required to completely change the air in the lungs.

II. *Blood-poisoning.*—In diseases in which blood-poisoning of some kind was the occasion for the use of oxygen, I have uniformly failed to find any improvement in the condition of cyanosis, although I have watched for it with greatest care; but I have frequently seen the subjective dyspnœa relieved.

To illustrate. Two years ago, I treated a case of malignant diphtheria in which great prostration early occurred, with very rapid respiration (50), marked subjective dyspnœa and cyanosis. There was not enough membrane to cause any obstruction, and the lungs at the time were perfectly clear and well filled with each inspiration. There was no time to examine the blood, but it seemed to be a case in which the blood became suddenly overwhelmed with the diphtheritic poison, and either the red disks themselves, or their hæmoglobin, was destroyed. Oxygen was vigorously administered for several hours, without the slightest improvement in cyanosis or rate of respiration, although the patient, an intelligent adult, said he felt greatly relieved by the gas. Death soon followed from pulmonary œdema and heart-failure.

Last March, a robust adult entered the Presbyterian Hospital, as a case of illuminating-gas poisoning. On admission he was unconscious, and he remained so. His lungs were clear at first. Later, he developed pneumonia, from which he died on the third day. During the entire time his respiration continued at 72. Oxygen was freely given, almost continuously. It produced no effect whatever upon either the rate of breathing or the cyanosis, which occurred during several attacks of pulmonary œdema. Cupping the chest, and venesection to relieve the right heart, produced decided temporary improvement where oxygen completely failed. In these cases, as is well known, carbon-monoxide forms a compound with hæmoglobin which permanently replaces oxygen in the red disks; and in the instance cited, oxygen inhaled nearly pure was evidently not appropriated by the plasma in sufficient quantity to be of benefit.

III. *Affections of the circulation.*—In cardiac diseases, or in failure of the heart to maintain the pulmonary circulation at its normal velocity, oxygen is reported to be of considerable value. My own experience with it in cases of this class has not been so encouraging. For example, in a recent case of malignant endocarditis, with extensive valvular disease and dilatation, I found oxygen of no avail in relieving the dyspnœa, either before or after there were any physical signs of obstruction to the entrance of air to the lungs. When the circulation is feeble, and the blood-current through the lungs is impaired, the blood, while in the lesser or pulmonary circulation, has all the more time to appropriate oxygen and be relieved of $CO_2$; but the blood in the greater or systemic circulation reaches the lungs less promptly, and it accumulates more $CO_2$. It seems doubtful whether inhalation of oxygen in this condition can be of much avail.

IV. *Diminished surface for aëration.*—In pneumonia, with very rapid respiration, dyspnœa, and cyanosis, I have often found oxygen to give very great relief. It is even possible for the dyspnœa to be decidedly relieved, while the cyanosis disappears in a few seconds, and the rate of respiration becomes slower, and its character improves. The same is true of capillary bronchitis and of asthma, especially when accompanied by extensive bronchial secretion. Where the thorax is poorly expanded from enfeeblement of the respiratory muscles, thoracic pain, or obstruction to the air-passages, etc., it may be impossible to inflate the lungs normally, or to have as complete an interchange of gases within them as should take place.

Under these conditions increase in the amount of oxygen present in the inhaled air ought to allow a larger proportion of oxygen to reach the deeper air-cells in a given time.

V. *Neurotic dyspnœa.*—Oxygen gives decided relief to certain forms of neurotic dyspnœa, *i.e.*, dyspnœa occurring where the lungs are perfectly normal, but from some cause the respiratory sense suffers greatly. I have found it very beneficial in uræmic dyspnœa. In one such case with normal lungs, the most pronounced I have ever witnessed, very intense dyspnœa lasted for three days, and during this time oxygen was almost continuously used day and night. After inhalation for fifteen or twenty minutes, the respira-

tion became slower and more tranquil, the cyanosis (which occurred later on with pulmonary œdema) was slightly improved, and the patient was greatly eased. The dyspnœa soon returned if oxygen was discontinued, and improved when it was resumed. In cases of this nature, which so frequently occur, I have come to regard oxygen as an invaluable therapeutic agent, not for any curative effect—for the condition may be hopeless from the start—but as a prompt and easy aid to one of the worst forms of suffering—the continual sense of impending suffocation. It is possible that in some cases the benefit is psychic, but it does occur.

Much has yet to be decided regarding the effects of oxygen inhalation. We should have more careful experiments to determine whether the exhalation of nitrogenous waste (volatile ptomaïnes?) is increased by oxygen inhalation, and to determine whether more oxygen is conveyed to the blood by diluting it with some still more diffusible respirable gas, or by administering it pure. Experiments of this nature, combined with careful study of the body temperature and pressure effects, will, no doubt, throw more light upon the relation of oxidation processes to fever, etc. In conclusion, the following summary of the therapeutic value of oxygen inhalation is offered:

Oxygen is of value—

1. In neurotic dyspnœa, for the relief of the distressing subjective symptoms.

2. Where there is diminished surface for aëration of the blood, oxygen improves the cyanosis, lowers the rate of breathing, and relieves the subjective dyspnœa.

3. Oxygen is of value where there is diminished inflation of the lungs from many causes.

4. It is especially beneficial in the dyspnœas of chronic Bright's disease and uræmia, pneumonia, capillary bronchitis, asthma, and catarrhal bronchitis, and sometimes in pulmonary congestion, and the early stage of œdema.

5. Great care should be taken to secure chemically pure oxygen.

VI. Oxygen may be given freely and abundantly in cases of emergency, without fear of any injurious consequences. Ordinarly it is sufficient to give it pure by one nostril, while the other inhales atmospheric air; but it is often best to give it for a few moments by the mouth or both nostrils, without admixture of air.

It is impossible to separate completely the causes of dyspnœa, which may often exist in combination, but in order to focus somewhat the discussion invited, Mr. President, I would suggest, that it would be interesting to hear the views of those present regarding the value of oxygen inhalation:

1st. In general diseases of defective nutrition, without regard to dyspnœa.

2d. In dyspnœa due to altered condition of the nerves, or of the circulation, altered composition of the blood (poisons, etc.), diminished surface for aëration, or feeble expansion of the lungs.

In performing my experiments I have received valuable aid from Dr. John C. Cardwell, Assistant to the Physiological Laboratory at the New York University Medical College, as well as from several students of the College.

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## ALCOHOLIC TRANCE IN CRIMINAL CASES.[1]

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THE frequent statement of prisoners in court, that they did not remember anything about the crime they are accused of, appears from scientific study to be a psychological fact. How far this is true in all cases has not been determined, but there can be no question that crime is often committed without a conscious knowledge or memory of the act at the time.

It is well known to students of mental science that in certain unknown brain states memory is palsied, and fails to note the events of life and surroundings. Like the somnambulist, the person may seem to realize his surroundings and be conscious of his acts, and later be unable to recall anything that has happened. These blanks of memory occur in many disordered states of the brain and body, but are usually of such short duration as not to attract attention. Sometimes events that occur in this state may be recalled afterward, but usually they are total blanks. The most marked blanks of memory have been noted in cases of epilepsy and inebriety. When they occur in the latter they are called alcoholic trances, and are always associated with excessive use of spirits. Such cases are noted in persons who use spirits continuously, and who go about acting and talking sanely although giving some evidence of brain failure, yet seem to realize their condition and surroundings. Some time after, they wake up and deny all recollection of acts or events for a certain period in the past. This period to them begins at a certain point and ends hours or days after, the interval of which is a total blank, like that of unconscious sleep. Memory and certain brain functions are suspended at this time, while the other brain activities go on as usual.

In all probability the continued paralysis from alcohol not only lowers the nutrition and functional activities of the brain, but produces a local palsy, followed by a temporary failure of consciousness and memory, which after a time passes away.

When a criminal claims to have had no memory or recollection of the crime for which he is accused, if his statement is true, one of two conditions is probably present, either epilepsy or alcoholism. Such a trance state might exist and the person be free from epilepsy and alcoholism, but from our present knowledge of this condition it would be difficult to determine this fact. If epilepsy can be traced in the history of the case, the trance state has a pathological basis for its presence. If the prisoner is an inebriate, the same favoring conditions are present. If

[1] Read before the International Medico-legal Congress, at New York City, June 5, 1889.

the prisoner has been insane, and suffered from sun- or heat-stroke, and the use of spirits are the symptoms of brain degeneration, the trance state may occur at any time.

The fact of the actual existence of the trance state is a matter for study, to be determined from a history of the person and his conduct; a grouping of evidence that the person cannot simulate or falsify; evidence that turns not on any one fact, but on an assemblage of facts that point to the same conclusion.

The following cases are given to illustrate some of these facts, which support the assertion of no memory of the act by the prisoner in court:

The first case is that of A——, who was repeatedly arrested for horse-stealing, and always claimed to be unconscious of the act. This defence was regarded with ridicule by the court and jury, and more severe sentences were imposed, until, finally, he died in prison. The evidence offered in different trials was, that his father was weak-minded and died of consumption, and his mother was insane for many years, and died in an asylum. His early life was one of hardship, irregular living, and no training. At sixteen he entered the army, and suffered from exposure, disease, and sunstroke, and began to drink spirits to excess at this time. At twenty he was employed as a hack-driver, and ten years later became owner of a livery stable. He drank to excess at intervals, yet during this time attended to business, acting sanely, and apparently conscious of all his acts, but often complained he could not recollect what he had done while drinking. When about thirty-four years of age he would, while drinking, drive strange horses to his stable, and claim that he had bought them. The next day he had no recollection of these events, and made efforts to find the owners of these horses and return them. It appeared that while under the influence of spirits the sight of a good horse hitched up by the roadside alone, created an intense desire to possess and drive it. If driving his own horse, he would stop and place it in a stable, then go and take the new horse, and after a short drive put it up in his own stable, then go and get his own horse. The next day all this would be a blank, which he could never recall. On several occasions he displayed reasoning cunning, in not taking a horse when the owners or drivers were in sight. This desire to possess the horse seemed under control, but when no one was in sight all caution left him, and he displayed great boldness in driving about in the most public way. If the owner should appear and demand his property he would give it up in a confused, abstract way. No scolding or severe language made any impression on him. Often, if the horse seemed weary, he would place it in the nearest stable, with strict orders to give it special care. On one occasion he joined in a search of a stolen horse, and found it in a stable where he had placed it many days before. Of this he had no recollection. In another instance he sold a horse which he had taken, but did not take any money, making a condition that the buyer should return the horse if he did not like it. His horse-stealing was all of this general character. No motive was apparent, or effort at concealment, and on recovering from his alcoholic excess he made every effort to restore the property, expressing great regrets, and paying freely for all losses. The facts of these events fully sustained his assertion of unconsciousness, yet his apparent sanity was made the standard of his mental condition. The facts of his heredity, drinking, crime, and conduct all sustained his assertion of unconsciousness of these events. This was an alcoholic trance state, with kleptomaniac impulses.

The next case, that of B——, was executed for the murder of his wife. He asserted positively that he had no memory or consciousness of the act, or any event before or after. The evidence indicated that he was an inebriate of ten years' duration, dating from a sunstroke. He drank periodically, for a week or ten days at a time, and during this period was intensely excitable and active. He seemed always sane and conscious of his acts and surroundings, although intensely suspicious, exacting, and very irritable to all his associates. When sober he was kind, generous, and confiding, and never angry or irritable. He denied all memory of his acts during this period. While his temper, emotions, and conduct were greatly changed during this time, his intellect seemed more acute and sensitive to all his acts and surroundings. His business was conducted with his usual skill, but he seemed unable to carry out any oral promises, claiming he could not recollect them. His business associates always put all bargains and agreements in writing when he was drinking, for the reason he denied them when sober. But when not drinking, his word and promise was always literally carried out. He broke up the furniture of his parlor when in this state, and injured a trusted friend, and in many ways showed violence from no cause or reason, and afterward claimed no memory of it. After these attacks were over he expressed great alarm, and sought in every way to repair the injury. Finally he struck his wife with a chair and killed her, and awoke the next day in jail, and manifested the most profound sorrow. While he disclaimed all knowledge of the crime, he was anxious to die and welcomed his execution. This case was a periodical inebriate with maniacal and homicidal tendencies. His changed conduct, and unreasoning, motiveless acts, pointed to a condition of trance. His assertion of no memory was sustained by his conduct after, and efforts to find out what he had done and repair the injury.

The third case, that of C——, was a man of wealth and character who forged a large note, drew the money, and went to a distant city on a visit. He was tried and sentenced to State prison. The defence was no memory or consciousness of the act by reason of excessive use of alcohol. This was treated with ridicule. Although he had drank to excess at the time of, and before, the crime, he seemed rational and acted in no way as if he did not understand what he was doing. Both his parents were neurotics, and he began to drink in early life, and for years was a moderate drinker. He was a successful manufacturer, and only drank to excess at times for the past five years. He complained of no memory during these drink paroxysms, and questioned business transactions and bargains he made at this time. On one occasion he went to New York and made foolish purchases which he did not recall. On several occasions he discharged valuable workmen, and when he became sober took them back, unable to account for such acts. These and other very strange acts continued to increase with every drink excess. At such times he was reticent, and seemed to be sensible and conscious, and did these strange acts in a sudden, impulsive way. The forged note was offered boldly, and no effort was made to conceal his presence or destination. When arrested he was alarmed, and could not believe that he had done so foolish an act. This was a clear case of alcoholic trance, in which all the facts sustained his assertion of no conscious memory of the crime. In these three cases the correctness of the prisoners' assertions of no memory was verified by all the facts and circumstances of the crime. The mere statement of a person accused of crime, that he had no memory of the act, should lead to a careful examination and be only accepted as a fact when it is supported by other evidence.

The following case illustrates the difficulty of supporting a prisoner's statement of no memory when it is used for purposes of deception:

An inebriate, case D——, killed a man in a fight, and was sentenced to prison for life. He claimed no memory or recollection of the act. I found that when drinking he seemed conscious of all his surroundings, and was always anxious to conceal his real condition, and if anything had happened while in this state he was very active to repair and hush it up. He was at times quite delirious when under the influence of spirits, but would stop at once if anyone came along that he respected. He would, after

acting wildly, seem to grow sober at once, and do everything to restore the disorder he had created. The crime was an accident, and at once he attempted concealment, ran away, changed his clothing, and tried to disguise his identity; when arrested, he claimed no memory or consciousness of the act. This claim was clearly not true, and contradicted by the facts.

In a recent case E—— shot his partner in business while both were intoxicated, and displayed great cunning to conceal the crime and person; then, after elaborate preparations, went away. He made the same claim of defence, which was unsupported by any other evidence or facts in his previous life. He was executed. Of course it is possible for the trance state to come on suddenly, and crime be committed at this time; still, so far, all the cases studied show that this condition existed before, and was the product of a growth beginning in brief blanks of a few moments and extending to hours' and days' duration. Unless the facts indicated the trance state before the crime was committed, it would be difficult to establish this condition for the first time, followed and associated with the crime.

I think, in most of these cases, where this defence is set up, there will be found certain groups of cases that have common physical conditions of degeneration. These groups of cases I have divided from a clinical stand-point, the value of which will be more as an outline for future studies.

Probably the largest number of criminal inebriates who claim loss of memory as a defence for their acts are the alcoholic dements. This class are the chronic inebriates of long duration; persons who have naturally physical and mental defects, and who have used spirits to excess for years. This, with bad training in early life, bad surroundings, and bad nutrition, has made them of necessity unsound, and liable to have many and complex brain defects. Such persons are always more or less without consciousness or realization of their acts. They act automatically only, governed by the lowest and most transient impulses. Crimes of all kinds are generally accidents growing out of the surroundings, without premeditation or plan. They are incapable of sane reasoning or appreciation of the results of their conduct. The crime is unreasoning, and general indifference marks all their acts afterward. The crime is always along lines of previous conduct, and never strange or unusual. The claim of no memory in such cases has always a reasonable basis of truth in the physical conditions of the person. Mania is very rarely present, but delusions and morbid impulses of a melancholic type always exist. The mind, like the body, is exhausted, depressed, and acts along lines of least resistance.

The second group of criminals who claim no memory are those where the crime is unusual, extraordinary, and unforeseen. Persons who are inebriates suddenly commit murder, steal, or do some criminal act that is foreign to all previous conduct. In such cases the trance condition may have been present for some time before, and escaped any special notice, except the mere statement of the person that he could not recollect his acts. The unusual nature of the crime, committed by persons who never before by act or thought gave any indication of it, is always a factor sustaining the claim of no memory. The explosive, unreasoning character of crime always points to mental unsoundness and incapacity of control.

A third group of criminals urge this statement of no memory, who, unlike the first group, are not imbeciles generally. They are positive inebriates, drinking to excess, but not to stupor, who suddenly commit crime with the most idiotic coolness and indifference, never manifesting the slightest appreciation of the act as wrong, or likely to be followed by punishment. Crime committed by this class is never concealed, and the criminal's after-conduct and appearance give no intimation that he is aware of what he has done. These cases have been termed moral paralytics, and the claim of the trance state may be very likely true.

A fourth group of cases where memory is claimed to be absent occurs in dipsomaniacs and periodical inebriates, who have distinct free intervals of sobriety. This class begin to drink to great excess at once, then drink less for a day or more, and begin as violently as ever again. In this short interval of moderate drinking some crime is committed which they claim not to have any recollection of.

Other cases have been noted where a condition of mental irritation or depression preceded the drink explosion, and the crime was committed during this premonitory period and before they drank to excess. The strong probability of trance at this period is sustained by the epileptic character of such conduct afterward. The trance state may be justly termed a species of *aura*, or brain paralysis, which precedes the explosion.

In some instances, before the drink storm comes on, the person's mind would be filled with the most intense suspicions, fears, delusions, and exhibit a degree of irritation and perturbation unusual and unaccountable. Intense excitement or depression, from no apparent cause, prevails, and during this period some crime may be committed; then comes the drink paroxysm, and later all the past is a blank. Trance is very likely to be present at this time.

In these groups the crime is generally automatic, or committed in a manner different from other similar crimes. Some governing centre has suspended, and all sorts of impulses may merge into acts any moment. The consciousness of acts and their consequences is broken up. The strong probability is that these trance blanks begin in short periods of unconsciousness, which lengthen with the degeneration and mental feebleness of the person. The obscurity of these conditions, and the incapacity of the victims to realize their import, also the absence of any special study, greatly increases the difficulty. It will be evident from inquiry that trance states among inebriates are common, but seldom attract attention, unless they come into legal notice. The practical question to be determined in a given case in court is the actual mental condition of the prisoner, who claims to have no recollection of the crime. This is a class of evidence that must be determined by circumstantial and collateral facts, which require scientific expertness to gather and group. The court can decide from the general facts of the crime and the prisoner whether his claim of no memory may possibly be true, and order an expert examination to ascertain the facts. This should be done in all cases where the prisoner is without means, in the same way that a lunacy commission is appointed to decide upon the insanity. The result of this expert study may show a large preponderance of evidence sustaining the claim of no memory, or the opposite. If the former, the measure of the responsibility must be modified, and the degree of punishment changed. While such cases are practically insane at the time, and incapable of realizing or controlling their acts, they should be kept under legal and medical surveillance for a lifetime, if necessary. Such men are dangerous, and should be carefully watched and deprived of their liberty for a length of time depending on recovery and capacity to act rationally and normally. They are dangerous, diseased men, and, like victims of contagious disease, must be housed and treated.

The future of such cases depends on the removal of the causes which made them what they are. The possibility of permanent restoration is very promising in most cases. How far alcoholic trance exists in criminal cases is unknown, but the time has come when such a claim by criminals cannot be ignored, and must be the subject of serious inquiry. Such a claim cannot be treated as a mere subterfuge to avoid punishment, but should receive the same attention that a claim of insanity or self-defence would. This is only an outline view of a very wide and most practical field of medico-legal research, largely unknown, which can be seen in every court-room of the land. These cases appeal to us for help and recognition, and the highest dictates of humanity and justice demand of

us an accurate study and comprehension of their nature and character.

The following summary of the leading facts in this trance condition will be a stand-point for other and more minute investigations:

1st. The trance state in inebriety is a distinct brain condition, that exists beyond all question or doubt.

2d. This brain state is one in which all memory and consciousness of acts or words are suspended, the person going about automatically, giving little or no evidence of his real condition.

3d. The higher brain centres controlling consciousness are suspended, as in the somnambulistic or hypnotic state. The duration of this state may be from a few moments to several days, and the person at this time may appear conscious and act naturally, and along the line of his ordinary life.

4th. During this trance period crime against person or property may be committed without any motive or apparent plan, usually unforeseen and unexpected. When accurately studied such a crime will lack in the details and methods of execution, and also show want of consciousness of the nature and results of such acts.

5th. When this condition passes away the acts and conduct of the person show that he did not remember what he had done before. Hence his denial of all recollection of past events, and his changed manner, confirm or deny his statements.

6th. When such cases come under judicial inquiry the statement of the prisoner requires a scientific study before it can be accepted as a probable fact. It cannot be simulated, but is susceptible of proof beyond the comprehension of the prisoner.

7th. In such a state crime and criminal impulses are the result of unknown and unforeseen influences, and the person in this condition is dangerous and an irresponsible madman.

8th. This condition should be fully recognized by court and jury, and the measure of responsibility and punishment suited to each case. They should not be punished as criminals, nor should they be liberated as sane men. They should be housed and confined in hospitals.

## FLAT-FOOT, OR PES VALGUS ACQUISITUS.

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The orthopædic surgeon is frequently consulted about a painful deformity of the foot which, as an acquired affection, is very common, and, as such, has not generally received the attention it deserves. It is the so-called "flat-foot," or talipes plantaris.

Flat-foot is characterized by a falling down or giving way of the normal plantar arch, so that the inner side of the sole rests upon the ground, or is turned completely backward. It has been variously described as talipes valgus, pied-bot valgus of the French, and platt-fuss of the German writers. Like other forms of talipes or club-foot, it may be either congenital or acquired. As a congenital affection, in its mildest form it is often found at birth, but seldom in such a degree as to be considered pathological. It is, moreover, a well-accepted fact that all infants on commencing to walk are flat-footed, and do not acquire a perfect plantar arch until they have exercised some time and the leg-muscles have become developed.

It is most common as an acquired affection from infancy to adolescence, seldom becoming a serious deformity until the latter period, and always occurring in one of two forms, as pes valgus paralytica, resulting from poliomyelitis anterior; or as pes valgus acquisitus, from simple muscular relaxation, as associated with rachitis; or as a sequala of burns, traumatism, osteitis of the tarsus, or ankle-joint disease.

It may be instructive here to review briefly the anatomical construction and mechanism of the natural foot. The foot includes all that portion of the inferior extremity below the tibio-tarsal articulation consisting of the tarsus, metatarsus, and phalanges, and in the adult has the form of two arches, an antero-posterior and a transverse, each with its convexity or dorsal surface above, and its concavity or plantar surface below.

The antero-posterior, the most important, is supported upon two piers or pillars, and has its summit at the astragalus and ankle-joint. This has been still further divided into two arches, an outer and an inner, by an imaginary line drawn posteriorly between the third and fourth metatarsal bones. The inner portion of the antero-posterior arch is much more curved than the outer, and forms the instep.

The posterior pier, formed by the posterior parts of the astragalus and os calcis, is shorter, more curved, has but one joint, and is more solid, receiving the greater part of the weight of the body. The anterior pier, composed of the scaphoid, three cuneiform, and three inner metatarsal bones, is longer, less curved, has many joints, and is more elastic, serving to diminish the force of shocks transmitted to the arch. The head of the astragalus, fitting into the concave surface of the scaphoid, and its postero-inferior surface, articulating with the anterior surface of the os calcis, may be regarded as the keystone, though differing in many respects from such bodies as usually employed. The weak part of the arch is strengthened by the interosseous ligaments, particularly the inferior calcaneo-scaphoid, which supports it from below, while beneath the inner portion of the plantar fascia adds additional strength. The outer portion of the antero-posterior arch consists of the outer portion of the os calcis, cuboid, and the two outer metatarsal bones. It is strengthened by the calcaneo-cuboid ligaments and the outer portion of the plantar fascia. Both arches are still further maintained by the tibialis posticus and peronei muscles, particularly the P. longus. The transverse arch, formed on the inner and outer sides by the bones entering into the inner and outer antero-posterior arches respectively, varies in degree of curvature in different portions of the foot, being most marked across the cuneiform bones. It affords protection to the soft parts of the sole, and adds to the elasticity.

The weight of the body is received by the astragalus as the highest part of the arch, and transmitted to the ground through the two piers of the antero-posterior arches. The foot in extension rests normally upon the heel, the tips of the metatarsal bones, and the outer side of the sole, the weight of the body in standing, walking, running, or dancing being transmitted through the heel, the ball of the great toe, and that of the little toe—the natural tripod of the foot—in the order named.

Thus the direction of the weight upon the arches is constantly changing, and it is only through the action of certain muscles that the normal arches are conserved. Thus in flexion the antero-posterior arch is increased by the action of the tibialis anticus, peroneus tertius, and extensor longus digitorum; and in extension, by the action of the gastrocnemius, soleus, plantaris, and peroneus longus, both the curves are diminished, and the foot flattened. Then, also, when the foot is markedly flexed the foot is adducted, and when markedly extended it is abducted, in which positions the arches are respectively increased and diminished. In this connection, Mr. Le Gros Clark says: "In reviewing the action of the various muscles around the foot, it is obvious that their attachment is designed to preserve the plantar arch, and that such healthy condition must depend in great measure on the evenly balanced action of those muscles upon their several attachments. Thus the peronei and tibial muscles antagonize each other, and the expanded insertion of two of them into the tarsal bones is very instrumental in preserving the transverse as well as the antero-posterior arch."

Three degrees or stages have usually been recognized, a mild, an intermediate, and a severe stage. Thus Lit-

tle[1] describes three varieties, of increasing intensity: 1st, those "in which the displacement is transient during the erect position only;" 2d, those "in which the displacement is permanent, and *deformity* is present;" and, 3d, those characterized by an aggravation of all the symptoms, to a marked degree.

A very good division, also, is that of Roth,[2] who describes three varieties: "(1) Cases in which it is possible to restore the foot completely to the normal shape by passive manipulation, without any force exerted by the surgeon, or by making the patient stand with the heels raised; (2) cases where the tarsal bones have become more or less fixed in their displaced positions by shortened ligaments and tendons, osseous deformity of the articulation surfaces, and fibrous or osseous anchylosis, which require forcible manipulation under anæsthetics to restore more or less of a normal arch; (3) intermediate cases, in which a partial restoration of the tarsal arch is possible without *brisement forcé*."

The division, however, which I prefer is that into, 1st, slight; 2d, medium; and, 3d, severe; which corresponds to that of Reeves.[3]

Numerous theories have been advanced as to the mode of production of flat-foot. The muscles, tendons, ligaments, bones, fascias, and even an improper mechanical construction, have each been considered the chief factors in its production.

Thomas, of Liverpool, and Roth,[4] of London, believe that the normally constructed human foot is incorrect anatomically, because "the lower end of the tibia is placed too much toward the inner border of the foot," and that this is the primary cause. Stromeyer[5] believed that atony of the plantar fascia, and the tarsal interosseous ligaments were at fault.

H. von Meyer[6] considered it due to a rotation of the astragalus inward, and pressure atrophy of the bones; while Reismann[7] considered it due to muscular contraction, first of the extensors and then of the pronators; but Volkmann and Lorenz[8] have disproved this, the latter supporting the view of Henke,[9] who announced that muscular insufficiency and body pressure were the chief factors; an explanation first proposed by Duchenne (of Boulogne), who considered the peroneus longus particularly at fault.

Of these theories the last has always appeared to me the most satisfactory, that it is a muscular affection from the first. Thus muscular relaxation, either from debility or paralysis of the peroneus longus, leads to an improper distribution of the body-weight upon the tarsal arches, which, by undue pressure upon the interosseous ligaments, especially the inferior calcaneo-scaphoid and calcaneo-cuboid ligaments and plantar fascia, induce their subsequent relaxation, stretching, and obliteration of the normal arch.

The symptoms differ in the two varieties—pes valgus acquisitus and pes paralytica—but in each are characteristic; but it is more particularly with the former—the so-called "splay foot," "talipes valgus spurius," "inflammatory flat-foot," or "tarsalgia of adolescents," with which we are concerned.

Patients suffering from this affection have an attitude and walk that is characteristic. They stand with the feet everted, resting on the inner side of the sole, with the knees in a fixed valgoid position, and walk with a difficult, heavy gait, the knees flexed and the feet placed everted and flat upon the ground in an uncertain, careful manner. Such patients have an expression of anxiety, tire easily, and complain of great pain of a dull, aching character, or sharp, excruciating in nature, about the inner malleolus, instep, or ball of the great toe, accompanied in some cases with swelling. On inspection the external appearance varies with the degree. In the mild variety the plantar arch is depressed, the inner malleolus lowered and prominent, the foot is cold, bluish, and perspires freely, and an outline taken to ascertain the angle of deflection[1] is found reduced from thirty-four degrees normal to about twelve degrees in mild, to eight degrees in severe cases.

The patient cannot raise himself on his toes, but the deformity can be readily restored by manual pressure. In the medium variety all these conditions are exaggerated, the foot is completely flattened and somewhat everted, the inner side presents two prominences below and anterior to the internal malleolus, the head of the astragalus, and the tubercle of the scaphoid; and on taking an outline the angle of deflection is found reduced to probably eight degrees. The pain is common about the inner lower portion of the astragalus, and may be so severe as to render exercise intolerable. The arch can still be restored, and the deformity is not prominent.

In the severe variety the foot is more everted, making an angle of deflection in severe cases as low as five degrees. This is due to functional paresis of the peroneus longus, and increased reflex contraction of the peroneus brevis, tertius, and extensor communis digitorum. The pain is increased by the unbalanced action of muscles, giving a painful spot at the base of the first metatarsal bone, by the direct pressure upon the ligaments, giving a point over the calcaneo-cuboid and astragalo-scaphoid articulations, and from direct pressure upon the plantar nerves referred to their distribution. Fibrous and osseous changes have occurred, and the arch cannot be restored without some operative procedure.

The pathology of the affection was for some time obscure, especially the non-paralytic valgus, it being supposed at one time to be inflammatory. Such cases have frequently been mistaken and actively treated for inflammatory lesions of the bones or ligaments; complete inflammation with effusion of lymph, serum, or pus, never, however, occurs. All the inflammatory symptoms are simply the result of pressure.

The extensors, particularly the peroneus longus, from some cause become relaxed. This is followed by stretching and elongation of the plantar muscles and tendons, the long and short plantar ligaments, the calcaneo-cuboid and astragalo-scaphoid ligaments, and the plantar fascia, and a giving way of the inner antero-posterior arch. The astragalus is pushed downward, forward, and inward; the scaphoid is rotated, the internal surface downward and the external surface upward; the ligaments, generally on the inner and plantar surfaces of the bones, are stretched, the joint surfaces separated on the plantar and crowded together on the dorsal aspect. This may become so great that the bones entering into the medio-tarsal (Chopart's) joint divide, the anterior portion resting upon the ground and the posterior portion drawn up by the extensors so that the heel does not touch the floor, making the so-called "canoe-shaped sole." The articular surfaces become eroded from the continued pressure, and osseous anchylosis renders the deformity permanent. The diagnosis in many cases can readily be made, but in others, especially the inflammatory variety, with which we are most concerned, very careful attention will be required to avoid confounding it with other conditions.

From the congenital forms of valgus it can be distinguished by the latter being always bilateral and the peroneus responding to electrical stimulus. (The slight normal tendency to flat-foot observed in infants has already been referred to.) Its occurrence about the period of adolescence, the previous history of rheumatism, knock-knee, bow-legs, lateral curvature, traumatism, bone or joint disease, should all be carefully inquired into.

[1] Little: On Deformities, 2d edition, p. 233. London, 1853.
[2] Roth: New York MEDICAL RECORD, March, 1888, p. 51.
[3] Practical Orthopædics, 1885, p. 185.
[4] New York MEDICAL RECORD, March, 1888, p. 53; also Lat. Curv., etc., H. K. Lewis, London, 1889.
[5] Beiträge zur operativen Orthopädik, 1838.
[6] Ursache und Mechanismus der Enstelung des erworbenen Plattfusses, 1883.
[7] Der erworbene Plattfuss, Langenbeck's Archiv, B. 2, Heft 3, 1869.
[8] Die Lehre vom erworbenen Plattfusse, 1883.
[9] Zeitschrift für rationelle Medicin, 3d series, vol. v., 1859.

[1] Rohmer: Les Variations de Forme normales et pathologiques de la Plante du Pied. Thèse. Nancy, 1879.

It is most commonly mistaken for rheumatism, of which it may be a sequela, and for inflammatory conditions of the tarsal or metatarsal joints or ligaments. Its angle of deflection, determined from the outline, will be the best single symptom to distinguish it from the former; and the same with reflex muscular contraction, or a collection of inflammatory fluid, from the latter.

The lesions from which it would be most difficult to distinguish it are the early stages of perforating ulcer, and such neuropathies as Charcot's joint disease. From these in the earlier stages a differential diagnosis cannot be made, but the subsequent course would soon decide the true nature of the affection.

The prognosis will depend on the cause and general condition and surrounding of the patient, and degree of the deformity. If advice is sought early, and the disease is still in the first or even second degree, the prospects, under appropriate treatment, of great improvement or even complete cure are good. Certainly entire relief of pain may be expected. If, however, ligamentous or osseous anchylosis have occurred, some relief may yet be hoped for, but resort must be had to brisement forcé, or tarsectomy, before the deformity can be overcome.

The treatment of pes valgus acquisitus varies with its cause and degree. Any diethetical tendency must be corrected by appropriate remedies. The mild varieties yield readily to the use of electricity to the affected muscles, massage, and removal from the exciting cause, with properly fitted metallic sole plate. For this purpose numerous devices have been recommended—pads of leather, felt, rubber, and other material attached to the inner or outer side of the sole, steel bars, springs, etc., added to specially constructed shoes, etc. I have attained the best results with the improved plate spring of Dr. A. Sydney Roberts, figured in *Medical and Surgical Reporter* for April 6, 1889. It consists of a tempered steel plantar spring so constructed as to supply an artificial arch..

In describing it,[1] he writes:

"An outline of the patient's foot is first taken on stencil-board, the tracing being extended upward on the inner side of the foot. The elevated, corresponding to the depressed, arch of the foot, can be tempered to the extent required by the particular case. The lateral pressure brought to bear by the elevated flanges is such that, while giving support to the arch to a certain extent, the artificial arch also prevents further displacement of the astragalus and scaphoid. Again, in place of giving only a limited amount of support to the inner side of the foot, this appliance supports the foot as a whole."

After the use of this spring in upward of sixty cases, in hospital and private practice, I am much gratified with the results obtained.

In severe cases, after the restoration of the arch by operative measures, the spring may with advantage be supplemented by an ankle support—two lateral steel uprights connected with a band extending to the calf, and an internal oval ankle-pad over the medio-tarsal articulation.

As a symptomatic condition in osteitis of the tarsus and ankle-joint disease, the valgus generally yields to the treatment employed for the primary osseous or articular lesion.

In severe cases, before resorting to extreme operative measures, all contracted tendons should be divided. Those most frequently requiring division will be the tendo Achillis, peronei, and extensor longus digitorum, and they are best divided into two stages—the peronei and extensor longus digitorum, first, to correct the valgus, and the tendo Achillis subsequently, to correct the equinus, which in severe cases is present. Failing in the worse cases to restore the arch by such means, accompanied with manual force—brisement forcé, with either a Bradford or Thomas wrench, should be attempted, and, as a last resort, Ogston's[1] operation should be resorted to; or, if much anchylosis be present, a regular tarsectomy, *i.e.*, removing a wedge-shaped piece of the tarsus from the inner side of the tarsus without reference to the bones or portions of bones removed, and the restoration of the foot. These severe operations should only be resorted to when milder measures, after due trial, have failed; for comparative relief will, in the greater majority of cases, be obtained by the milder remedies in about six or eight weeks, whereas several months are required after any cutting operation upon the tarsal bones.

222 South Sixteenth Street.

[1] Medical and Surgical Reporter, vol. ix., No. 14, p. 420.

[1] London Lancet, January 26, 1884.

## Clinical Department.

### HYSTERECTOMY FOR LARGE FIBROMYOMA.

By D. BENJAMIN, M.D.,

SURGEON TO THE COOPER HOSPITAL, CAMDEN, N. J.

H. M——, aged thirty, living in the southern part of New Jersey, came to me, March 24, 1888, suffering from a large abdominal tumor which, she stated, her physicians called an ovarian tumor. I obtained the following history: Her mother died of erysipelas; one sister died with cerebro-spinal meningitis. Patient's past condition was stated to have been moderately healthy until last summer, when she commenced to lose flesh; at this time there was noticed a slight enlargement of the abdomen, which was attributed to dropsy. In October, 1887, she was examined by a physician, who stated that there was a tumor in the left ovarian region, then about the size of a fist. Two months afterward she was subjected to another examination, and the tumor was found to have increased in size to that of a child's head. No history of any injury to this region could be obtained. Her menstrual flow had been regular, sometimes profuse; had skipped one month, which she attributed to a cold. She began to suffer from vomiting, and constipation, and occasional abdominal pains; these symptoms had constantly grown worse, until almost every meal was vomited, and constipation became more and more obstinate, so that powerful purgatives had to be administered, but were losing their effect, and symptoms of obstruction were becoming marked.

She had lost fifty pounds in weight within a few months, but as she had been previously inclined to embonpoint, her emaciation was not extreme. On palpation through the abdominal wall, the tumor appeared symmetrical and mobile; did not feel so hard as is common with fibroid tumors, nor so soft as a cyst; was not nodular, and felt very much like a pregnant womb in the early part of the ninth month. Fluctuation could not be positively demonstrated. Percussion sound dull, except a small area in each flank.

Vaginal examination showed the cervix drawn up, and an enlargement in Douglas' pouch about the size of a retroverted womb. Rectal touch gave no additional information. A flexible urethral sound passed into the os uteri about two inches, taking a forward direction. Pregnancy having been eliminated by the examination, a diagnosis of solid, or semi-solid tumor involving the womb could be made, but the exact relation of the ovaries to this tumor was not clear, and exploratory incision was advised, with a view of ascertaining the exact relation of the tumor to the pelvic organs, and the possibility of its removal, with the understanding that any beneficial operation that would seem feasible should be proceeded with. Accordingly, March 29th, patient was etherized; the usual incision was made in median line. The tumor was wedged so tightly in the superior strait of the pelvis, that only one ovary could be reached—the left, which was enlarged. Adhesion being slight, the incision was extended upward, with scissors, sufficiently to enable the upper part

of the tumor to be reached, which was free, but in contact with the stomach and liver.

The incision was then extended upward and downward sufficiently to enable the tumor to be delivered forward through the abdominal incision. The right ovary was found crowded down into Douglas' pouch, and was enlarged to about the size of a hen's egg, and roughened on the surface. The right Fallopian tube was much enlarged, and the left tube was about double the normal size, and adherent. Both ovaries, and both Fallopian tubes were carefully ligated and cut away. The exact relation of the base of the tumor to the womb could now be clearly made out, and it was apparent that room enough could be made above the insertion of the vaginal wall, into the cervix, to remove the tumor and body of the womb without necessarily wounding the ureters, bladder, or other pelvic organs. I then determined to remove the entire tumor and womb, since to return it to the abdominal cavity would have been to have left the patient in almost as bad a condition as before the operation, with respect to the obstruction and other difficulties which the tumor caused, and at the same time be little less dangerous to the patient's life than complete hysterectomy. I then carried the incision downward as closely to the pelvic bone as the bladder would permit, ligated each of the round ligaments in two places, and cut between, applied Koeberle's clamp, and cut away the tumor. The stump was at least three inches in diameter. The tumor was about thirty inches in circumference. After all bleeding points had been properly secured, and all clots removed from the abdominal cavity, the bowels and peritoneum were thoroughly washed off. The omentum, which had been lying on a towel, was returned and arranged over the bowels. The pedicle was fixed in the lower angle of the womb, and the incision closed with silk sutures at intervals of less than half an inch. Wound was dressed antiseptically, and the patient placed in bed.

The patient constantly improved without any untoward symptoms, and was discharged in six weeks after the operation. The clamp came off on the twenty-third day. The patient has not vomited since the operation, and has had no pain. All functions are normal. She states that it is the first time she has felt well in four or five years.

In determining the value of the operation of hysterectomy to humanity, it is important that all cases should be reported, as I found the literature on the subject so meagre at the time of the above operation, that reliable data could not be obtained in this country. The operation has never, so far as I can learn, been performed in New Jersey; but as hysterectomies are becoming more frequent and successful, ample statistics will soon be forthcoming.

## A CASE OF STRANGULATED HERNIA MISTAKEN FOR ONE OF URÆMIA IN A PATIENT KNOWN TO BE SUFFERING FROM CHRONIC INTERSTITIAL NEPHRITIS—AUTOPSY.

By FREDERICK REMINGTON, M.D.,

ROCHESTER, N. Y.

N. F——, sixty years of age, married and housekeeper by occupation, entered the Monroe County Insane Asylum suffering from chronic mania. The family and personal histories were negative; the habits unknown; and the previous health good. She was well developed and nourished. Heart enlarged to left. Accentuation of second aortic sounds. Some œdema of hands and feet and some puffiness of eyelids. Examination otherwise negative.

Urine—Amount varied from 70–90 ounces in 24 hours. Specific gravity, 1.010–1.008. Albumin $\frac{1}{8}$–$\frac{1}{16}$ of one per cent., and the sediment contained a relatively large number of small hyaline and fine granular casts. During the patient's stay in the asylum she frequently suffered from slight uræmic attacks, as was evinced by some œdema of feet and eyelids, vomiting, and vertigo. From these attacks she usually recovered after a rest of a day or two in bed.

The patient's appetite had been poor for several days, and she had been losing weight rapidly. One day she had some swelling of feet and vomiting; there was also diarrhœa. Morphine, gr. $\frac{1}{4}$ by stomach, was given to relieve the vomiting. The urine was passed involuntarily and its amount cannot be estimated. During the next two days the patient's symptoms grew rapidly worse, and she died three days later at noon. No new symptoms having developed.

*Autopsy.*—The heart-walls were greatly thickened, and showed evidence of granular degeneration. There was calcification of the aortic flaps. The mitral orifice admitted five, and the right auriculo-ventricular seven, finger-tips. The weight of the heart was twenty-two ounces.

The kidneys were decreased in size, their surface was uneven and capsule adherent; surface granular; cortex is very much decreased and dense on section; pyramids injected; weight of both kidneys five ounces.

Projecting through the internal inguinal ring on the right side, into the inguinal canal, there was a hernia of the middle portion of the small intestine. The intestines were agglutinated to the hernial sac. The included knuckle of gut was gangrenous and leathery, and easily broken through. The hernial sac contained about two ounces of a yellowish stercoraceous material. It was impossible to reduce the hernia. Below the constriction, the intestines were empty, while above they were filled with gas and semi-fluid, yellowish, not especially feculent, fæces. There was absolutely no tumor produced by the hernia, and there was no symptom which was not in keeping with a uræmic attack. Of course, the patient was unable to give satisfactory subjective symptoms, and under the circumstances a more rational conclusion could not have been arrived at than the opinion formed by everyone who saw her, that she was suffering from uræmia.

## SUBCORACOID DISLOCATION OF THE HUMERUS REDUCED BY KOCHER'S METHOD.

Dr. S. W. Boerstler, of Lancaster, O., writes: "P. M——, a stout, muscular man, was brought to my office with a subcoracoid dislocation of the left humerus, produced by a fall on the hand and forearm, a few hours before I saw him. Several attempts at reduction had been made by manipulation, extension outward and downward with the heel in the axilla, but all failed. Having read the account of Kocher's method in The Medical Record of March 30th, by Dr. Charles Powers, of New York, I concluded to give it a trial. The patient was placed on the floor, the well shoulder steadied by an assistant, and the position of the arm, with the different movements as shown in Dr. Powers' article, strictly carried out. The first attempt was successful, and those present, as well as myself, were astonished with what ease and facility the reduction was accomplished. I had never heard of Kocher's method, and I believe it is not generally known to the profession. Our text-books on surgery do not speak of it. Hamilton, in his work on 'Fractures and Dislocations,' recommends reduction by manipulation, but the different movements of the arm are unlike those of Kocher. This simple, easy, and effective procedure, I advise every one to try who may have a case of subcoracoid dislocation. It is unnecessary to anæsthetize the patient."

The Brooklyn Academy of Science, a society incorporated August 22, 1888, has opened a free reading-room in its rooms in Warner Institute, Willoughby Avenue and Broadway, Brooklyn. The various scientific journals will be upon the tables, and there is absolutely no charge to the public. Donations of papers will be greatly appreciated.

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## THE WORKINGS OF THE LAW AGAINST SUICIDE.

DOES prohibition prohibit? is a question frequently asked, in these days, by those interested in temperance matters, and is variously answered according to the bias of the one to whom it is addressed. A similar question was propounded a few years ago when a law was passed in this State making suicide a crime, and many inquired, doubtingly, whether the attempted prevention of suicide would prevent it. If it is allowable to form a conclusion from the statistics of suicide in this city, we might say that it does prevent, or rather restrict, self-murder. Previous to the enactment of this law the average number of suicides in New York City was 144 per 1,000,000 inhabitants, and since that time, although there has been an increase in the number of suicides, the increase has not been in proportion to the growth of population, so that, relatively, there has been a slight falling off.

The punishment prescribed for attempted suicide is not very severe, and would not be likely to deter one who was really bent on self-destruction. The section of the Penal Code bearing upon this point reads as follows: "Every person guilty of attempting suicide is guilty of a felony, punishable by imprisonment in State prison not exceeding two years, and by a fine not exceeding one thousand dollars, or both."

The fact that such a mild penalty has had the effect of reducing the number of suicides relatively to the population suggests the query whether, in a certain proportion of cases, the success of a suicidal attempt is not accidental; whether of those that perish a certain number did not make a feint at suicide without really intending or wishing to end their lives, led to their foolish act perhaps by a desire to create sympathy, or in the hope of calling back an offended lover, the feigned attempt becoming, unfortunately, only too real in its fatal issue. This supposition is strengthened somewhat by the statistics of the Board of Health in respect to the class in whom the greatest falling-off in suicide has been noted. It is shown that the decline is most notable in women, and it is among the weaker ones of this sex that we would most naturally look for these pretended attempts at self-destruction. Having no intention of killing themselves, they would be more likely to be deterred from making a pretence of so doing by the threat of a punishment held over them, whereas those who really wished to end their existence would be little influenced by a penalty which they would take care to escape by insuring a successful termination to their attempt.

## THE LESSONS TAUGHT BY RARE DISEASES.

A VERY instructive address was recently delivered by Jonathan Hutchinson (*Lancet*, May, 1889) before the Medical Society of London, in which he urged upon his hearers the importance of careful and systematic study of rare diseases. There are no isolated maladies, all diseases are the result of pathogenetic influences, and careful study will often show the relation between widely differing appearances. A large number of diseases ranked as "rare" are simply exaggerated or overgrown examples of those which are common—more striking, it is true, but presenting nothing really novel. The zeal which we often witness for "nominal" diagnosis, the anxiety to place every case under some recognized name, leads sometimes to forgetfulness of the fact that the nature of the disease is of far more real importance than its name. In the early stages of most maladies, the ulterior development is by no means certain, but depends rather upon the—as yet undetermined—incidence of a variety of contributory causes. It is not the fact that the human body is ever taken possession of by some seed-like principle, destined in future infallibly to evolve a certain definite form of disease. The form which results is the outcome of a complex chain of causes. The order of events which has in any given case ended in the production of certain of these rare maladies, might have failed at any point, or might have been broken by art.

As illustrations of this truth, he cites a number of interesting diseases. The starting eyes, the throbbing carotids, the swollen thyroid, the irritable heart, the general failure of strength in exophthalmic goitre, mark the extreme development of the disease; but every day we see women with failing health, and irritability of circulation in head and neck—shown by want of control of temper and proneness to flushing—who, in all probability, are suffering from the same disease in its mildest form. Change of climate is, probably, the only specific: in the former case, giving the greatest relief to symptoms, in the latter, cutting the disease short in its earliest stages.

In myxœdema, we have a slowly insidious change in structure, pervading almost all parts, and leading, without any tendency to spontaneous amelioration, to gradual abolition of all the higher endowments of humanity, and, finally, to destruction of life itself. But who does not see frequently in the flabby, thickened skin, the featureless face, the general obtunding of intellect of certain patients, the milder forms of this disease, which, we may be tempted to suspect, is, in reality, but one of the ordinary forms of premature senility to which many women are, to a greater or less degree, liable.

While some of the diseases accounted rare are simply exaggerated specimens of what is common, it is also true of others that they reveal individual idiosyncrasies of exaggerated intensity. In xeroderma pigmentosum, for example, the affected children are born with apparently healthy skins, but in a few years freckles develop on exposed parts in a most unusual degree, and these may coalesce, become inflamed or ulcerated, destroy the features, produce neoplasms, or even become cancerous.

But this disease is essentially the same as common freckling, only intensified by the family peculiarities of the patient.

This doctrine of exaggeration, as explanatory of rare diseases, is very well illustrated by the phenomena of Reynaud's disease. All the changes that are essential to it are experienced by the person who gets a "dead" finger from keeping his hand in cold water, or a blue nose from exposure to a cold wind.

Again, xerostoma is but a more pronounced and persistent example of that temporary dryness of the mouth which is so often induced by emotion.

In one case under his own observation, a patient, after an ordinary operation for piles, had immediate, complete, and permanent paralysis of the anus and urethra. In his opinion similar disabilities of the rectum and bladder centres, in less degree, occur in all cases of retention after operations.

It is important that we should understand that no diseases are unique. When like causes are brought to bear, like results must necessarily ensue. If we but look around us enough, and reflect upon what we see, we shall discern the great laws which underlie all disease processes. The transformation of the "black freckles" of the aged into cancer and similar phenomena but illustrate two great laws—that in the processes of old age, all local disturbances tend toward cancerous action, and that the precise form of malignancy will depend on the tissue attacked.

In this connection, the condition termed "granuloma fungoides" deserves mention. The skin is first attacked by inflammatory thickening, and then, gradually, large fungating growths develop, which are in all clinical features malignant, and which cause the patient's death. These are neither epithelial nor sarcomatous, but seem to be connecting links between inflammatory and truly malignant affections. Some of them may possibly have derived their peculiarity in the first instance from individual idiosyncrasy as regards drugs.

Several of the many rare diseases quoted in his address illustrate strikingly, in his opinion, the important doctrine that all inflammatory products are infective, much in the same way that the products of malignant growth are so; and further, that the process of malignant new-growth is, after all, nothing but a modification of that of chronic inflammation.

## THE TRUE STATUS OF HOMŒOPATHY.

THE New York *Graphic* recently wandered from the easy paths of contemporaneous picture-making, and made some remarkable statements regarding the status of homœopathy. Commenting on Professor H. C. Wood's address at the Yale Medical School, it says: "At a time when quite one-half of the medical practice of the world is governed by the philosophic discoveries of Hahnemann, it seems something more than an anachronism to have a member of the Faculty of the Pennsylvania University stigmatize homœopathy as quackery on the plane of faith-cure."

The *Graphic* critic adds: "Considering that there are monuments to Hahnemann, the discoverer of homœopathy, in many of the great cities of Germany—that the science he taught is a recognized branch in most of the great medical schools in Europe, Professor Wood's extraordinary doctrine, must be regarded as the zeal of ignorance and does no credit to the great university he compromises by such intemperate judgment."

Such stupid and blundering criticism as this is of importance and interest only as it shows how prevalent is the ignorance regarding the true status of homœopathy even among men who are undoubtedly well-informed as to the world's progress in most directions.

The facts are simply these. In the United States there were in 1885 twelve homœopathic and eighty-eight regular medical colleges with one thousand and eighty-eight and nine thousand four hundred and forty-one students, respectively. At the most liberal estimate the homœopathic practitioners of this country form one-eighth of the total number. There is no homœopathic medical college in the country which can be said to be even fairly well equipped and endowed, as compared, for example, with the leading regular medical colleges of New York, Boston, and Philadelphia. The only school which really flourishes numerically is in Chicago.

The statement that "homœopathy is a recognized branch in most of the great medical schools of Europe" is absolutely untrue. Homœopathy has no place whatever in any of the universities of Germany or France, nor has it a school of its own anywhere in Germany. There is a small homœopathic hospital of one hundred beds in London, with a small medical school attached.

There are said to be only about two hundred and seventy-five homœopathic physicians in all Great Britain and Ireland. The number on the Continent is proportionably even less.

## OLD-TIME FEES.

THE recent centennial celebration of our city seems to have stimulated considerable delving into the past, and medical matters have had their share of investigation. Chiefly among these, aside from the questions of modes of prescribing and treatment, fees have claimed no little attention. One fact, at least, is patent, that, as a rule, they have not increased, and in very many instances have perhaps fallen below the stationary plane. At best, to the general practitioner, upon whom the burthen of earnest and continuous work mostly falls, the consideration of what is a proper recompense for services is of paramount interest. For his consolation, we may say that in the golden days of our continent medicine, no more than theology and law, yielded no princely incomes. Perhaps medical societies here and there may have attempted to regulate the scale of remuneration by imposing rates with carefully shaded details, but these were not uniformly operative, and very likely represented only the maximum. The ancient practitioner, almost invariably "expected to be at home very shortly," dealing with long distances and precarious meals, and facing storms of every derege of severity, even if he charged more than his descendant of the towns of to-day, was compelled to balance his time against competition. Then, again, barter more frequently than money was the basis of settlement, so that shifting values exercised a baneful influence in more ways than one.

Dr. J. M. Worthington, of Annapolis, Md., has sent to the writer of "Medical New York in 1800" a bill of Dr. James Murray's against an estate, studded with various dates from April, 1788, down to its legal settlement in August, 1790.

The comments of our antiquarian friend Worthington upon this bill will explain themselves. He says, in his note to Dr. John Shrady, that the said Dr. Murray, who belongs to the family of that name resident in Maryland many years before the Revolution, collected about five dollars for each visit. "His charges," says he, "for compounding prescriptions, from one shilling to seventeen shillings each, were by no means unreasonable, and yet they would make the average apothecary of to-day wealthy, while the patients might be reduced to despair. As will be seen, all kinds of medicaments figured among the items of this bill; to wit, pills, powders, boluses, blisters, mixtures, infusions, cordials, purges, decoctions, and juleps."

All these things were possible in the days of no coal, no artificial light but candles, no transportation except by horse or sail, and no cheap postage; when, to say nothing about a medical periodical, even a newspaper was a luxury.

The Dr. Murray to whom allusion is made was a man of acknowledged social standing, skill, and learning: he had an extensive patronage among the large land-owners. The recent Surgeon-General of the Army belongs, as we are informed, to this stock.

## News of the Week.

An Accessary Thyroid Gland at the Base of the Tongue.—Herr R. Wolf, of Hamburg, reported a unique case of this kind. A girl, aged eighteen, otherwise healthy, complained of a feeling of a foreign body being in the throat. The speaker found a tumor at the back of the tongue, different in color from the other parts. It was firm and solid to the touch; its posterior border was lost in the gullet. Treatment with iodide of potash and painting with iodine was successful at first, but the tumor suddenly began to grow, difficulty of swallowing came on, and extirpation was determined on. He first performed tracheotomy, and later on (February 6th) removed the tumor. The cavity left was filled with a tampon, and recovery was rapid.

Preventing Tuberculosis by Military Orders.—The German War Minister has decided that the chest of every soldier shall be examined once a month. If the chest does not reach a certain breadth and does not develop with drill and athletic exercises, the soldier will be disqualified, and regarded as being predisposed to phthisis, and, moreover, likely to infect his comrades.

Novel Treatment of Abdominal Aneurism.—A novel procedure has just been attempted by Mr. Keetley in a case of large abdominal aneurism which is under his care at the West London Hospital. The tumor, which mainly occupies the epigastric region, and projects prominently forward, has thrust the liver into the right lumbar region, and Mr. Keetley, in order to control if possible the pulsation in the aneurism, devised and carried out the following procedure. An incision was made below the ribs on the right side, and the peritoneal cavity opened; a specially constructed instrument with a handle, a curved stem, and a thickened extremity was then passed into the wound and through the foramen of Winslow, between the liver and the tumor, and made to compress the aorta above the origin of the cœliac axis. Upon the first occasion the stem was of copper, and unfortunately bent under the pressure to which it was subjected. The operation was repeated with an instrument constructed of steel. It was found that the object aimed at could be obtained, but not entirely. Although the aorta was by this means partially compressed, it was not possible to control the circulation sufficiently to render it justifiable to continue the attempt.—*Medical Press.*

Identity of Function of the Two Occipital Lobes.—M. Dupuy has recently shown a patient before the Société de Biologie who has two good non-strabismic eyes, but who only sees with one at a time. The moment she attempts to use both together she becomes very dizzy; hence, says M. Dupuy, there must be identity of function in the visual centres of each cerebral hemisphere. We do not know that there is any place but the city of Paris in which it would be necessary to prove so old and well-established a fact as that upon which M. Dupuy thinks he has thrown such brilliant light.

An Attempt to Organize an Infirmary for Electro-therapy and "Suggestion-therapy" (Electricity and Mind-cure) was recently made at Munich, but so far has not succeeded.

The Medical Association of Alabama forbids its members to do contract practice. Dr. W. C. Cross contracted to practise with the Blocton Iron & Coal Company, and sent in his resignation as a member of the Association. The resignation was not accepted, and Dr. Cross was dropped for "unprofessional conduct." Thereupon he sued the Association for $50,000 damages. We trust that the Association will not be mulcted in so large a sum; but it seems from the facts before us as if its action was decidedly arbitrary, and a good deal of the Knights-of-Labor order.

Salol and Cholera.—Professor Löwenthal, who has lately made experiments on the action of salol on cholera bacilli in Professor Cornil's laboratory in Paris, of which an account was given in these columns in "Medical Paris of To-day," has received a special mission from the French Government to proceed to Tonquin, in order to study the effects of salol on cholera patients. Professor Löwenthal is for this purpose nominated a navy medical officer *à titre d'étranger*, but is allowed full liberty of action. This is the first time that the French Government has selected a member of another nation for such a post, and it well indicates the tendency of science to draw nations nearer together.—*Lancet.*

Lady Kortright, formerly of Philadelphia, but now living in England, has presented $100,000 to the Presbyterian Hospital at Philadelphia, to found a Convalescents' Retreat. She has also given to the same hospital $40,000 to build a male surgical ward, and $10,000 to endow two perpetual free beds.—*Medical News.*

A Cure for Snoring.—Dr. John I. Brinkerhoff, of Auburn, N. Y., writes: "I notice in The Medical Record a serious request for cure for snoring, and a facetious reply to 'bite the nose, gently, but firmly.' Still, there is a cure for snoring, used by my comrades in the army, viz., tie a band or handkerchief over the mouth if the subject can breathe easily through the nose. We found this to be very effective."

THE EYESIGHT OF AMERICAN SCHOOL CHILDREN.—Dr. J. L. Minor, of Memphis, Tenn., reports (*Memphis Journal of the Medical Sciences*) the results of his examination of 682 pupils in the public schools of Memphis. The refraction was normal in 523 out of 682; the refraction was hyperopic in 128, and myopic in 32. The myopia, therefore, amounts to less than five per cent., and the myopes were all in the fourth class, where they constituted fifteen per cent.

DR. CHARLES F. STILLMAN, of New York City, who has attained considerable prominence during the last eight years in the field of medical examination for life insurance, having been elected to fill the first chair on that subject ever created (in the University of Vermont), and who is also the author of the latest and most thorough text-book on life insurance examinations—besides having been connected with the Travellers' and other prominent companies in this city, as medical examiner—has recently given up this portion of his work, and is now devoting himself to the practice of his specialty.

THE DEATH OF DR. CHARLES W. WOLFERTZ.—Charles W. Wolfertz, M.S., M.D., of 231 East Eleventh Street, died suddenly of heart failure, on June 19th, at Orange, N. J., where he had gone the week previous to regain his health. He was a graduate of the College of the City of New York of Class of 1883, taking degree of B.S. He graduated from College of Physicians and Surgeons in 1886, winning the first Harsen Prize for best Report of Medical and Surgical Clinics held at New York Hospital. He was an inspector of vaccination on Board of Health for three years, and had a promising career before him. He leaves a widow and one child, and a host of sympathizing friends.

FOR DIABETES Dr. Dujardin-Beaumetz says: Into a glass of Vichy water, sweetened with saccharin and flavored with a little rum or kirsch, I dissolve one of the following powders, and order the whole to be taken at one dose: Antipyrin, 3 v.; divide in chart. No. xx. One powder three or four times a day. I have never seen any ill results from this medicine, however long continued; nevertheless, Albert Robin affirms that at the end of a week albumen will appear in the urine. He adds: The most simple way of prescribing Martineau's remedy is: Take before each meal, in a tumblerful of Vichy or Vals water, one of the following powders, adding to the mixture two drops of Fowler's solution of arsenic: Carbonate of lithia, 3 ijss.; divide in chart. No. xx.

PROPOSED EXTENSION OF COLLEGE TERM IN CANADA.—At the recent meeting of convocation of the University of Toronto, the President of the Medical Faculty urged upon the Minister of Education, who was present and who largely controls educational legislation in the province of Ontario, the desirability of having the college term extended to nine months instead of six months, during each of the four years required before graduation. This proposed change is now exciting considerable comment among the profession, and is generally received with favor. The standard of medical education in Canada has steadily increased for many years, and the suggestion of a nine months course, coming as it does from the head of one of the leading institutions, has much to support it. There is no doubt that the present course favors the cramming system so detrimental to the mind and future usefulness of the student. If the course be changed from six to nine months in each of the four years, there is no doubt it will add to the thoroughness of the work done, and will be profitable for the student as well as of advantage to the public, for whose service he will be all the better qualified. While it may seem hard to impose on the student an attendance on college lectures of thirty-six months before being allowed to be presented for graduation, yet few are found willing to dispute the fact that the change would be a most desirable one, and in every way conducive to the interests of the profession in Ontario.

THE LAST INTERNATIONAL MEDICAL CONGRESS, which met in Washington in 1887, unanimously selected Berlin as the next place of meeting in 1890. Professors Virchow, Von Bergmann, and Waldeyer, to whom was confided the preliminary direction of the next congress, have already taken active steps to make it a success. All the medical faculties and other medical bodies in Germany have been invited to nominate delegates to confer together on the subject this year, at the time of the Heidelberg meeting of the German Scientific Association in September. It is proposed that the congress of 1890 should commence its proceedings on August 6, 1890.

THE GYNECOLOGIST'S FIELD.—The Fallopian tubes are found diseased in one-third of all female cadavers, according to Winckel. The gynecologist has, therefore, always one chance out of three of finding something the matter with the ovaries and tubes, if he only cuts down upon them.

VERMONT STATE MEDICAL SOCIETY.—The semi-annual meeting of this society will be held at Brattleboro, Vt., on Tuesday and Wednesday, July 9th and 10th.

THE PRINCE OF WALES' LEPER.—The chief sensation of the week, telegraphs the London correspondent of the *New York Times*, has been over what has come to be called the Prince of Wales' leper. By some curious freak London took exceptional interest in the circumstances surrounding Father Damiens' death. After his death the photographer who owned a negative of the devoted priest coined money, and the agitation began for a moment. The Prince took charge of the matter, and then the doctors who had views on leprosy joined it, and by the time the meeting was held a full-grown project of founding a leper hospital in London had taken shape. Unfortunately, to have a good leper hospital one needs lepers, and so a search was instituted, and the discovery made that there are two much needed specimens in London. The Prince, put up to make a speech, declared that there was a leper in London employed in a large meat market. At this a fearful outcry was raised by the butchers, and columns of protest were crowded into the papers until the identity of this man was revealed. He turns out to be a native Englishman who was never out of the country, and who peddled ox-tails, etc., on his own account, and is an undoubted leper.

HYPNOTISM IN ART.—The novelists who have been of late years working hypnotic and trance phenomena into their productions are being followed by the painters. A Munich artist has recently painted the picture of a beautiful woman lying in a cataleptic state, with the title "Hypnotized."

# Society Reports.

## American Medical Association.

### FORTIETH ANNUAL MEETING,

*Held at Newport, R. I., June 25, 26, 27, 28, 1889.*

(Continued from page 727.)

### SECTION ON SURGERY AND ANATOMY.

THIRD DAY, THURSDAY, JUNE 27TH.

DR. THOMAS S. K. MORTON, of Philadelphia, read a paper entitled

ABDOMINAL SECTION FOR TRAUMATISM,

in which he carried his original statistics and observations of two and one-half years ago up to date.

He excluded all cases where section for traumatism was not done as a measure of primary relief—that is, at latest, when not more than two or three days have elapsed. Those operated upon after such lapse of time were termed "secondary section," etc.

Of the first class Dr. Morton presented tables of 234 cases, with a general mortality of 58.97 per cent.

Ninety-seven American surgeons operated upon 165 cases, with a mortality of 65.45 per cent.; 64 foreign surgeons operated upon 69 cases, with a death-rate of 47.82 per cent.

Thirty-two operations were performed in Philadelphia, 25 in New York, 22 in St. Louis, 22 in London, and 13 in Chicago.

A feature of the paper were the remarks upon the causes of death after operation. Forty-three cases died from peritonitis, due to delayed operation; 16 from peritonitis arising after operation; 11 from overlooked perforations; 4 from inefficient suturing of wounds; 3 died upon the table, 10 immediately after leaving it, and 40 within 12 hours.

Eighteen cases were opened, and no intraperitoneal injuries requiring treatment found, 2 of which died: 1, of opium-poisoning; the other, cause not stated.

Of the 234 cases there were: Gunshot wounds, 110, mortality, 67.2 per cent.; stab-wounds, 79, mortality, 39.2 per cent.; ruptured bladder, 27, death-rate, 62.9 per cent; ruptured and contused intestine, 18, with an 88.8 per cent. mortality.

Resection of intestine was performed 17 times in 15 cases, with but two recoveries. The writer stated his belief that these, as well as many other figures, would be reversed by the employment of Senn's improved methods of intestinal anastomosis and suture, which he described in their relation and application to wounds of the class under consideration.

Senn's hydrogen test was used in 11 instances. It proved the presence of wounds in 8 cases, their absence in 2 cases, one of which died of subsequent violent peritonitis. In one case it entirely failed to show perforations, two of which were discovered when the abdomen was opened to control hemorrhage. The author assigns the hydrogen test to an extremely narrow field of usefulness.

He emphasizes that, under fair surroundings, every case where penetration can be proved should be opened and searched—many even without such evidence, as in rupture of the bladder, bowel, etc.

He further insists upon median incision, early operation, systematic search for lesions, irrigation, thorough drainage, preliminary washing out of the stomach, and the treatment of subsequent peritonitis with active cathartics and, perhaps, reopening the wound.

Hydrogen insufflation as a test of rupture of the bladder was suggested, and a number of successful experiments to that end cited.

JOSEPH W. PRICE, of Philadelphia, read a paper on

PELVIC SURGERY BY ABDOMINAL SECTION.

The introduction of Listerism, which was fundamentally correct in idea, wrought death by chemicals instead of dirt. Even now this opinion may be disputed. But ere long it will be the rule to keep harmful disinfectants as far away from the abdomen as fetid pus or other filth. It stands proven that cleanliness may be and constantly is obtained without the aid of any chemicals whatsoever. This opinion I have always held, and have never, in any operation of my own, used chemical disinfectants in any form whatsoever. Cleanliness, water, and good surgery are the very best of all antiseptics.

The author then made a strong plea for early operation, and against the use of electricity.

DR. J. M. BALDY, of Philadelphia, read a paper on

THE TREATMENT OF PERITONITIS.

That peritonitis is a disease distinct, and is idiopathic in its origin, is boldly disputed *in toto* by many, their opinion being based on not only clinical and post-mortem evidence but on data obtained by an opening into the peritoneal cavity during life and during the progress of the attack itself. That peritonitis is absolutely never idiopathic in its origin he was not, as many others were, fully prepared to say, but of this, at least, we are sure: that in the vast majority of cases there is a distinct lesion as the exciting cause, and, personally, in quite a large experience with this disease, he had never seen a case in which a definite cause was not probably present. If we accept this view of the etiology of peritonitis, as he thought we needs must, it is perfectly clear that, even from a theoretical point of view, we must find some other treatment than by narcotics.

In place of the treatment by opium large doses of the salines are advised. And this, taken together with opening of the abdominal cavity, put into the hands of the profession remedial agents to which the vast majority of cases of peritonitis should succumb.

Pure traumatic cases, of course, demand operative measures; and chronic peritonitis is best treated by the surgeon. Tubercular cases are no exception to this rule.

After every abdominal section for peritonitis, whether the cause is found or not, the necessary complements of the operation are free irrigation and drainage.

DR. N. B. CARSON, of St. Louis, read a paper on

CHYLOUS CYST OF MESENTERY, WITH A REPORT OF A CASE.

The patient was first seen three years ago, then thirty-nine years of age; had a cyst about the size of a fœtal head. The tumor was aspirated, and several ounces of chyle withdrawn. During the following three months there was no change in the size of the cyst. He was not seen again until February, 1889, when there was found inflammation about the tumor, which had increased in size to that of an adult head. Laparotomy was performed on March 3, 1889, the sac incised, and emptied of five pints of pure chyle.

Analysis by Dr. Bremer, of St. Louis: Specific gravity, 1.014; alkaline; contained albumen, but no fibrin. Microscopically, large granular cells in abundance, in some of which the protoplasm showed various degrees of degeneration. The chief elements were fat-globules, resembling in size those of milk, and also crystals of sodium chloride, carbonates, and sulphates.

Dr. Bremer considers the fact that cells containing fresh and intact protoplasm were found would go to prove that the cyst from which the fluid was taken was in some way connected with the canal carrying fresh cells, probably with the lacteals or the cisterna mesenterica.

This is the first case in American literature, and the largest of all cases recorded to date. These cysts may originate from five different sources: From the thoracic duct, from the receptaculum chyli, from the lacunæ mesentericæ, and from a rupture of the chyle-ducts within the mesenteric folds.

The case resulted in a complete cure. The conclusions are: Removal of these cysts is advised so soon as they begin to inconvenience the patient or interfere with his nutrition or health, by incision and drainage, instead of extirpation, as it is believed that the latter operation is not only difficult but endangers the life of the individual.

DR. ADDINELL HEWSON, of Philadelphia, read a paper entitled

THE USE, TWENTY-FIVE YEARS AGO, OF POLARITY, FOR LOCATING THE WHEREABOUTS OF A LEADEN BULLET DEEPLY EMBEDDED IN THE BODY.

The bullet was located by the agitation of the needle of a small compass-charm when held in the immediate neighborhood.

DR. THOMAS H. MANLEY, of New York, reported a

RARE CASE OF FRACTURE OF THE EXOSTOSIS OF THE PUBIC BONE.

The patient had been well up to three weeks before first seen, and he was able to walk when he was admitted to the hospital. The history was that he had felt something in the groin give way, and the disability followed. A collection of pus presented along the upper inner border of the thigh. This was opened. At a later operation there was found a reduplication of the pubic bone, which had become separated from its base of attachment, and was acting as a foreign body and pressing on the femoral artery. It is the opinion of the writer (the patient having died of pyæmia on the fifteenth day, and a post-mortem examination having been obtained) that the condition was one of congenital reduplication of the pubic bone.

DR. ROBERT NEWMAN, of New York, read a paper entitled

ELECTROLYSIS IN THE TREATMENT OF STRICTURE OF THE RECTUM.

Twelve cases were reported in detail; the first had been treated by him in 1871. The *modus operandi* is virtually the same as he uses in urethral stricture, applying a metal bulb as negative pole to the stricture with a galvanic current of from five to fifteen, or even twenty, milliampères, according to the seat of the stricture, the nature of the neoplasm, the size of the electrode, and other conditions. The seances are of from five to fifteen minutes, and under some circumstances thirty minutes, and are repeated in one or two weeks. No force should be used. The electrode should be kept steadily against the stricture and only guided until the electrolytic action does the work of enlarging the calibre and the instrument passes the obstruction.

It seems that females are more inclined to have rectal stricture, as out of the twelve only two were males. Their ages were mostly between thirty and forty; the youngest was twenty-four, the oldest sixty-two years of age. The two males were comparatively young men, twenty-three and twenty-six years of age. Eight cases were single strictures, and four had multiple strictures. The duration of the malady was from six months to twenty years. The causes varied, but hemorrhoids and constipation were important factors; other causes were syphilis, venereal enteritis, and dysentery. It is believed that rectal stricture may follow any inflammation of the rectum. One case was complicated by five fistulæ, which healed without further treatment after the stricture had been cured. Eight cases had had previous treatment; of these, six had had operations with the knife. In none had the previous treatment been successful. Of the twelve cases reported, nine are claimed to be cured, and three temporarily improved. The nine cured cases had shown no relapse during the time they were under observation—from one to ten years. Other successful cases were referred to, treated by Dr. Samuel Benton and Dr. W. T. Whitmore, of London, and Dr. S. T. Earle, of Baltimore.

The conclusions drawn were as follows:

Electrolysis in the treatment of stricture of the rectum is not a panacea; failures may occur, and may be expected if the stricture be due to carcinoma.

Electrolysis will give improvement to rectal strictures when other means have failed.

Electrolysis will cure a certain percentage of cases, without a relapse, better than other modes of treatment, and without the necessity of using bougies or any after-treatment.

The best chances for a cure are with the fibrous inflammatory strictures. The best mode of treatment is by a metallic bulb as negative pole, with weak currents at intervals of four days to two weeks.

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FOURTH DAY, FRIDAY, JUNE 28TH.

DR. FRANK WOODBURY, of Philadelphia, presented a new model inhaler for administering ether or chloroform, made by E. A. Yarnall, of Philadelphia, in which the anæsthetic is dropped into a funnel-shaped opening at the top and falls upon absorbent cotton confined in a chamber beneath, where it is confined by a perforated, hinged diaphragm. The advantages are cleanliness, convenience, and cheapness.

DR. CHARLES DENISON, of Denver, Col., exhibited

A NEW RIB CUTTER,

and narrated

A CASE OF RESECTION OF RIBS FOR DRAINAGE OF A PULMONARY CAVITY.

The lung-cavity was treated by washing out with antiseptic solutions. The case terminated favorably. The rib-cutter was devised with the end in view to make as small an opening as possible, and to leave the periosteum intact.

DRS. W. BARTON HOPKINS and C. B. PENROSE, of Philadelphia, read a paper on the

ORGANIZATION AND ABSORPTION OF STERILIZED DEAD-BONE DOWELS,

in which were shown the effects of retaining for various periods ox-bone dowels in contact with living bone. The experiments were performed upon dogs, and demonstrated that organization of the dead bone, as evidenced by the presence of blood-vessels continuous with and extending from the living bone, readily occurs. After five weeks bone dowels lose their power to give support to fragments or extremities of bone in which they have been introduced, begin to undergo absorption in the medullary cavity, and active organization in the shaft of the bone.

From these experiments we base the following deductions:

1. That when sterilized dead bone is placed, under favorable circumstances, in contact with living bone, it undergoes organization. When, on the other hand, it is acted upon by periosteum it is absorbed, and when placed in the medullary cavity, in not too large bulk, organization, combined with absorption, takes place.

2. That these processes go on perhaps most actively between the fifth and eighth week, and are not necessarily associated with any inflammatory action.

3. That, therefore, where these dowels are employed to pin together fragments of bone after fracture, to fix the extremities of bone after resections, or for any other mechanical purpose in surgery to which they are adapted, they may be relied upon to do their work for a period of one month or six weeks, and hence to give ample time, as a rule, for union to occur. After this, their presence being no longer required, they gradually lose their identity in surrounding bone, and disappear.

DR. CHARLES DENISON, of Denver, Col., presented

A CASE ILLUSTRATING THE DRAINAGE OF A PULMONARY CAVITY.

The case, taken from the writer's records, was that of a man, twenty-six years of age, first examined, November 3, 1888. The previous April he had had a pneumonia of

the left lung, and softening was determined to be present in the left axillary space. Though his stay in Colorado was accompanied with increased weight and strength, yet the signs of tubercular infection and breaking down of the living tissue continued, as shown by the afternoon-hectic and the daily expectoration of half a pint of purulent sputa, night-sweats, etc. January 14, 1889, pulse, 110; respiration, 40; temperature, 101⅓° F. at 2 P.M.

Permanent drainage was advised, and the operation performed on January 22d; portions of the sixth and seventh ribs were resected. A new treatment of the cavity was devised: that of daily injection of a ten per cent. solution of salol in liquid vaseline. This was carried out by the patient, as well as the antiseptic cleansing of the cavity.

March 16th, pulse, 92; respiration, 28; temperature, 98⅘° F. at 4 P.M.; weight increased thirteen and a half pounds since the operation. Discharge from the tube reduced to one ounce a day, and expectoration as well as cough had ceased since the operation. Symptoms all improved.

On May 10th the drainage-tube was shortened from four and a half to three and a half inches, and it lay along the bottom of the pulmonary cavity, which was one and a quarter by three and a half inches in size, extending along the left side of the sternum, from the clavicle downward and outward toward the left nipple, being situated beneath the front wall of the chest. Air was then found to enter around the cavity, above and outwardly. No fever; and arrest of lung disease assured. Since then the patient has done well.

The rib-cutter, suggested to the writer by the difficulty of resecting the ribs because of their overlapping in this case, was presented. It is composed of a periosteum separator, curved at the point, upon which a sliding, cutting blade is forced by a toggle-joint which gives the operator great power in making a clean, even section of the bone. This was illustrated in a satisfactory manner to those present. By this instrument a portion of a rib can be first denuded of its periosteum, and then one and a third inch, or more, of it can be excised, and removed through an external opening only large enough to admit the instrument, *i. e.*, one and a quarter inch long.

DR. J. G. CARPENTER, of Stanford, Ky., read an exhaustive paper on the

PATHOLOGY AND TREATMENT OF CHRONIC SCIATICA,

and reports two cases of operative nerve-stretching.

The first patient had chronic sciatica of the right nerve. The trunk was inclined to the left; the vertebral column described a curve with its convexity to the right; the left hand descended much lower than the right; the right lower extremity was semi-flexed; the buttock of this side presented a flattened appearance, the gluteal fold being elevated; finally, the heel of the right foot did not touch the floor. The limb was atrophied and cold, one and one-half inch smaller from the hip to the foot than the left, and the patient was unable to sit on the right buttock. The condition of the nerve on exposure, before stretching, was this: The neurilemma was found to be thickened, congested, and numerous reticulations of small blood-vessels ramifying the sheath. The latter had lost its opacity and was a pinkish, yellow color, had many nodular deposits, and many adhesions to the adjacent tissues, showing plainly that the case was one chronic sciatic perineuritis.

Attitude of second case, left sciatic nerve being affected: Trunk inclined to the right; the vertebral column curved to the left, when the pain was great; the left lower extremity partly flexed, except when walking on the street; the left buttock flattened, and the gluteal fold elevated; and the heel of the affected side can be made to touch the ground only with pain. In the recumbent posture the left limb was flexed, and pads or pillows had to be placed under the knee and back to remove pressure from the tender points; otherwise the patient could not lay on the back or left side. The limb was one and one-half inch smaller from hip to foot than the right, and cold and atrophied; the patient could not sit on the left thigh and buttock. On cutting down there was found to be some fibro-cystic tumors and nodular deposits on the nerve (perineuritis nodosa chronica), and bands of lymph and adhesions between the sheath and adjacent tissue. The neurilemma had lost its normal appearance and showed signs of fatty degeneration, and was traversed by many small blood-vessels.

DR. J. WILLIAM WHITE presented a communication on

THE SURGERY OF THE SPINE.

Dr. White divides the spinal troubles which may necessitate surgical interference into three classes: traumatisms, caries, and neoplasms. He reviewed the history of the surgery of these conditions, gave the details of two cases in which he performed resection of the spine, and reached the following conclusions:

1. The objections urged against operative interference in spinal traumatisms were partly theoretical (hemorrhage, frequency of absolute destruction of the cord, pressure from inaccessible fragments of bone, etc.), and have been shown to be unsupported by clinical facts. They were largely due to a well-founded dread of (*a*) the shock, in the cases operated on in pre-anæsthetic times; and (*b*) consecutive inflammation, suppuration, and pyæmia in pre-antiseptic periods. The later results, which now constitute our only safe basis for generalization, are distinctly encouraging, and resection of portions of the vertebræ in fractures, possibly even in dislocations, should be recognized as an eminently proper operation and, in suitable cases, altogether warranted by the facts in our possession; and further, such cases are by no means rare or exceptional.

2. There can be still less doubt that the testimony of both pathologists and practical surgeons indicates that the cause of the paralysis of Pott's disease is, in many instances, an extra-medullary proliferation of connective tissue, assuming the density and proportion of a neoplasm, occupying the space between the dura and the interior surface of the laminæ, not apt to be associated with intra-medullary changes or with destructive degeneration of the cord, and very frequently removable by operation.

3. Every case of focal spinal lesion, thought to depend on a tumor, and not distinctly a malignant and generalized disease, should be regarded as amenable to operative interference, no matter how marked the symptoms of pressure may be, nor how long continued.

4. The method of extension, as recently revived, is well worthy of preliminary trial in the first two classes, and in obscure cases thought to belong to the third class. It has not yet been tried in a sufficiently large number of cases to establish its exact limitation, but it is unquestionably a therapeutic measure of vast importance in spinal injury and disease.

It is customary and proper, in deciding upon any serious surgical procedure involving risk to life, to consider well the prospects of the patient in the event of non-interference, and to be largely influenced by them. Looked at in this light, the operative surgery of the spine as regards traumatisms, caries, and neoplasms may fairly be said to have a rapidly widening field, and to deserve more serious and careful consideration by practical surgeons than it has received for many years.

The following papers were read by title: "The Surgery of the Lateral Ventricles of the Brain," by W. W. Keen, of Philadelphia; "Arthrectomy of Knee-joint," by E. H. Bradford, of Boston; "Epicystic Surgical Fistula for Relief of Vesical Catarrh," by J. D. S. Davis, of Birmingham, Ala.; "Drainage in Abdominal Surgery," by Charles B. Penrose, of Philadelphia; "A Plea for Early Abdominal Work," by M. Price, of Philadelphia; "Wiring the Patella in Old Ununited Fracture," by W. C. Wile, Danbury, Ct.; "The After-treatment in Cases of Abdominal Section," by L. S. McMurtry, of Louisville; "Cranial Surgery," by H. O. Walker, of Detroit; "Fis-

tula in Ano," by J. M. Mathews, of Louisville; "The New Improved Aseptic Surgical Pump," by Elmer Lee, of St. Louis; "Incomplete Inward Dislocation of the Radius and Ulna of the Elbow," by Albert Stifel, of Wheeling, West Va.

## SECTION ON DISEASES OF CHILDREN.

### THIRD DAY, THURSDAY, JUNE 27TH.

A PAPER by Dr. Marcus P. Hatfield, of Chicago, on "The Value of Hydrogen Dioxide in the Treatment of Children," was read by title. A paper by Dr. David S. Booth, of Sparta, Ill., on "Penal Rule in Public Schools," was read by title.

DR. S. P. DEOHOFE, of Potsdam, O., read a paper on

#### POLIO-MYELITIS ANTERIOR ACUTA.

The author related the histories of five cases he had seen. He thought the diagnosis not always easy. He believed that in treatment the effects of electricity are not brilliant. The first treatment should be always rest.

DR. KING, of Chicago, had seen three cases in adults. Pain was a symptom in adults, but was not found so readily in children. In his experience the bladder was always paralyzed, but was all right at the end of two or three days. In one of his cases the atrophy was extreme at the end of three weeks. Considered electricity harmful in the early stages.

THE CHAIRMAN thought that electricity never did good.

DR. HOOPER agreed with the Chairman.

DR. I. N. LOVE, of St. Louis, read a paper entitled

#### ONE YEAR OF ACETANELIDE IN PÆDIATRIC PRACTICE.

The author stated that he considered acetanelide superior to any of the carbolic-acid series. He believed it better to use the name given at the head of the paper in preference to the patented one of "antifebrin." He regarded the drug as three times more effective than antipyrin and less depressing. If it diminished the red blood-cells, it required a long administration to do so. The depressing effects resulted from poor makes of the drug. He agreed with Widowitz in his view of the safe and steady action with children. He did not believe the disagreeable cyanosis was of special importance, and it could be overcome by combining with alcohol. He made mention of the advantage of the use of the drug in scarlet fever, measles, and congestive fevers. The author spoke of the treatment of fifty cases of whooping-cough by acetanelide, and thought it a valuable remedy. In conclusion the writer of the paper stated the following: Acetanelide, carefully guarded and properly used, is a safe and reliable remedy in the diseases of infancy and childhood. It is preferable to antipyrin, because it does not cause so much depression, and its effects last longer. The cyanosis is not a dangerous, though it is a disagreeable, feature. It is of value in controlling temperature in fever caused by the typhoid germ. It serves almost as a specific in whooping-cough, by mitigating the discomforts and controlling the paroxysms of the disease.

DR. DIXON, of Kentucky, did not think the acetanelide equal to antipyrin, except as a febrifuge. Had had alarming effects following its use. In malarial fevers gave it, and followed it with quinine.

DR. HILL, of New Hampshire, gave eight- or ten-grain doses in asthma.

DR. KING, of Chicago, had seen relief by twenty-grain doses in a case of cerebral tumor.

DR. W. P. WATSON, of Jersey City, did not advise its use in self-limited fevers.

DR. ATKINSON, of Baltimore, had not seen the impure drug. Did not think we could modify fever, but could contribute to the comfort of the patient.

THE CHAIRMAN advised the use of the drug in hyperpyrexia with pale skin, to dilate the capillaries.

DR. OSLER, of Baltimore, had given acetanelide in the cold stage of fever, but had found it useless.

DR. WOODBURY, of Philadelphia, did not believe in prescribing patented drugs, and therefore did not use it.

DR. LOVE, in closing the discussion, reiterated that the cyanosis was not dangerous, but the drug could be combined with alcohol.

Dr. J. C. Wilson, of Philadelphia, read by title a paper on "Visceral Neuralgias in Children."

DR. WILLIAM P. WATSON, of Jersey City, read a paper entitled

#### ATROPINE IN ENURESIS.

The author had treated thirty cases by atropine, and cured twenty-seven. He gave one drop, for each year of the child's age, of a solution made by adding one grain of atropine to one ounce of water.

The paper was discussed by DRS. DIXON, LARRABEE, HILL, JEFFRIES, and KNAPP.

Dr. William Osler, of Baltimore, read by title a paper on "A Further Study of the Cardiac Relations of Chorea."

The following papers were read by title: "Adherent Præputium Clitoridis as a Cause of Chorea, with Report of a Case," by C. Henri Leonard, M.D., Detroit; "The Treatment of Heart Disease in Children," by J. A. Robinson, M.D., Chicago; "The Physical Education of Children," by H. P. Leuf, M.D., Philadelphia; "The Treatment of Tubercular Bone Lesions before the Joint is Invaded," by V. P. Gibney, M.D., New York; "Notes on Surgical Diseases of Children," by Edward Brock, M.D., St. Louis; "Spina Bifida," by Norman Teal, M.D., Kendallsville, Md.; "Trismus Nascentium," by A. V. Williams, M.D., Frankfort, Ky.

## SECTION IN DERMATOLOGY AND SYPHILOGRAPHY.

### THIRD DAY, THURSDAY, JUNE 27TH.

DR. HENRY FLEISCHNER, of New Haven, read a paper on

#### PRURITUS.

The author described in an interesting manner the clinical difference between the pain of pruritus and ordinary pain, and mentioned the many unsettled questions connected with etiology, pathology, and therapy. The treatment had to be adapted to the individual case, was largely empirical, and when successful proved so by accident. He had most frequently found menthol useful. Results from electricity he thought were largely imaginary. Acetic acid had been of value in many cases, also resorcin and kairin. Results from sulfonal had not encouraged him to continue its use.

DR. CORLETT had obtained most benefit, according to the class of cases, from tepid baths, menthol ointment or solution in alcohol, carbolic acid, and tar applications.

#### CLINICAL STUDY OF ECZEMA SEBORRHOICUM.

The paper was sent by DR. GEORGE T. ELLIOT, of New York, and was based on the observation of 208 cases the past eighteen months. They constituted twenty-nine per cent. of all cases of eczema seen during that time. Thirty-six of the cases were seen during the three summer months. Of the 208 cases 134 were in females. All ages were affected. The majority of cases occurred between the tenth and thirteenth year. The scalp was affected in all the cases. In 118 the eruption was limited to the head and face. The progress of the eruption was slow. The author thought it was a purely local affection, not being affected by constitutional conditions or treatment. In only a few cases was itching severe. Some patients stated that the eczema had been present even as long as ten years, perhaps changing location. The scale was unusually branny, the area of red or yellow, bare, greasy, from size of a pea up. The skin between the patches might be normal, greasy, or covered with scales.

DR. BULKLEY did not believe as large a proportion of cases of eczema fell under the division of eczema seborrhoicum as appeared from Dr. Elliot's paper; that other

forms of eczema had been confounded with this late division made by Una. He also differed from the author in the view that it was purely local, requiring only local treatment.

Dr. Corlett expressed essentially the same views entertained by Dr. Bulkley, and said the subdivision made by Una was accepted with more or less reserve in Paris, Vienna, Berlin, and London.

Dr. J. Abbott Cantrell, of Philadelphia, reported a case of

PAINFUL SUBCUTANEOUS NEUROMA.

It occurred in a man, aged twenty-eight, the tumor beginning to grow in the region of the deltoid fourteen years ago. Others had appeared since, and numbered about six, on either arm, in the same region. The largest was of the size of a pea. At first they caused itching, afterward they became painful, the pain being paroxysmal, and excited especially by contact of clothing and blows. It was at times extreme, and like the cutting of a knife. He had been disappointed in exsecting a tumor for examination, but presumed it to be neuro-fibroma.

Dr. Louis Wickham, of Paris, sent a paper entitled

NOTES ON THE PARASITIC THEORY OF ALOPECIA AREATA.

So long, he said, as a specific parasite for this affection was not found and proven beyond doubt, the parasitic theory would encounter many adversaries. But in favor of this theory, in default of discovery of the parasite, there were facts of contagion which seemed clearly proven. In the Hospital St. Louis they had met with different ways of transmission of variable importance. For instance (1) a small girl affected with alopecia, a sister sleeping in the same bed was frequently attacked with the same affection. (2) Three children of the same family had taken alopecia at short intervals from each other. (3) A small girl coming from the country to stay with relatives where a child has alopecia, one month later shows plaques of alopecia. (4) A young man had alopecia over the right temple, a place which was rubbed by the rim of his helmet. He had worn about two months the helmet of a friend who had alopecia. The plaque corresponded exactly to the part rubbed by the helmet. (5) Four men working together in a small room were affected, one after the other, within some months, with plaques of alopecia. They sought advice how to protect their fellow-workmen from the disease, which they were convinced was contagious. They frequently exchanged hats, which doubtless served as agents of transmission. There were other striking examples of contagion in French medical literature.

The author was far from denying the existence of an alopecia of neurotic origin, but the facts given, which came under his own observation, and others quoted, proved, he thought, the existence of a contagious form. Some objections to the theory were discussed. They were alike applicable to most diseases known to be contagious, but in which the parasite had not yet been discovered.

The following papers were read by title: "Eruption produced by Internal Use of Rhubarb," by Dr. H. Goldenburg, New York; "General Points in the Treatment of Inflammatory Diseases of the Skin," by Dr. Oscar Lassar, Berlin.

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## SECTION ON LARYNGOLOGY AND OTOLOGY.

First Day, Tuesday, June 25th.

W. H. Daly, M.D., Chairman.

Dr. John O. Roe, of Rochester, N. Y., read a paper on

GLANDULAR HYPERTROPHY AT THE BASE OF THE TONGUE, AND ITS TREATMENT.

Until recently the importance of this condition was not recognized. He referred to it under the usual name of "lingual tonsil." The lingual and the faucial and pharyngeal tonsils are the same in structure and function—their chief function being the secretion of mucus. The lingual tonsil is liable, from its position, to irritation by the passage of food, etc. and the blood-vessels in and about them seem subject to all the variations of the temperature of solids and liquids which pass over them, and very naturally the glands frequently take on an abnormal condition as a consequence. An abnormally distended condition of the blood-vessels is found in these hypertrophies. These vary according to the conditions of local irritability, but also with the plethoric condition of the general system, and may, as Mr. Lenox Brown has pointed out, be symptomatic of mitral disease or hepatic engorgement, or even cerebral tumors. Small ruptures over these glands may be the origin of blood-spitting. They are often associated with the same condition of the other tonsils, and the symptoms often resemble those of hypertrophy of the faucial tonsils, causing changes in the voice and inarticulation, and the sensation of a foreign body in the throat, as of a hair, etc. Attacks of asthma are not infrequent from this cause, and globus hystericus is often observed in this association in females.

Diagnosis is easily made by inspection on drawing the tongue forward.

Treatment has two objects to accomplish: 1, removal of all hypertrophies; and 2, obliteration of all varicosed blood-vessels. The first is best accomplished by abscissions with a curved knife or scissors, is easily done, and unattended by much hemorrhage or soreness. The galvanic cautery is also useful. Corrosive substances are also recommended, as chromic and nitric acid, Vienna paste, etc. In cases of moderate enlargement, caustics may prove efficient. In using the galvano-cautery the hypertrophy may be burned away by a flat cautery, applied from the summit downward, by cutting off at the base with the cautery knife, or by transfixing through the base with a very slender cautery point. For destroying the enlarged vessels the last instrument should be used, applied longitudinally to the trunk of the vessel at the point from which they arise, as near as possible. Before any of these operations cocaine should be applied.

Dr. Solis-Cohen objected to the term "tonsil" applied to collections of lymphoid tissue, other than those existing between the arches of the palate. He approved of the author's method of getting rid of the growths. In case of slight enlargement he found that a solution of creosote, or carbolic acid and iodine in glycerine, sufficient topical treatment.

ELECTION OF OFFICERS.

Dr. John O. Roe, of Rochester, N. Y., was elected President, and Dr. Frank H. Potter, of Buffalo, N. Y., Secretary.

Dr. E. Fletcher Ingalls, of Chicago, read a paper on

ELECTROLYTIC TREATMENT OF CYSTIC GOITRE.

The author referred to the various conventional methods of treatment, and especially to that of Sir Morell Mackenzie, first published in 1872, and which is pronounced in Holmes' "System of Surgery" to be the most efficient. This consists of injecting into the cyst a solution of perchloride of iron, and allowing the cannula of the trocar, tightly plugged, to remain in place for three days. If, on removing it, suppuration does not take place, the same procedure is repeated, this being followed by poulticing.

The author claims for electrolysis that it produces more rapid results, is less dangerous, and has other advantages over other methods, and gave the history of two cases in support of his views, which had been treated by him by electrolysis.

In the first case, after several tappings, followed each time by rapid reaccumulation of fluid, electrolysis was used, and after three or four applications, for ten minutes, of from six to ten Leclanche cells, the cysts ceased to refill, and remained cured. The tumor had been found to be about one-third solid tissue. This remained, but

did not increase. A needle was passed into the cyst and the other pole of the battery applied over the tumor.

The second case was one which had existed for several years, and had been injected with iodine and other fluid but continued to remain of about the same size. Electrolysis was first employed on February 23d, and after four or five applications, on March 23d, it had ceased to refill and the cyst was completely eradicated. The strength of the current was regulated by the patient's ability to bear it.

Dr. D. Bryson Delavan, of New York, then read a paper on

ADENOID HYPERTROPHY OF THE VAULT OF THE PHARYNX; ITS PATHOLOGY AND TREATMENT.

The author stated that there were two principal varieties of the disease. In one the growth was soft, friable, and rich in lymphoid elements; in the other there was an excess of fibrous tissue. The first was removable with ease and little pain—the other was exceedingly tough and removal caused much pain. The methods of operation were alluded to, and it was insisted that in the more severe cases, even in young adults, the use of anæsthetics is of the greatest importance and that removal should be completed if possible at one operation. The author also insisted upon the great importance of the proper after-care of patients thus operated upon, and recommended that they be put upon a course of tonic treatment, and that the mouth-breathing habit be corrected by special attention thereto; that deformity of the chest, if present, be remedied by proper physical exercise, and finally, that errors of pronunciation be eradicated. The paper was illustrated by numerous instruments and by several fine colored drawings.

Dr. Lawrence Turnbull, of Philadelphia, then read a paper on

THE VALUE OF ANTISEPTIC TREATMENT AND PROTECTION OF THE MEMBRANA TYMPANI IN PERFORATIONS THE RESULT OF OTORRHŒA.

He stated that it was not necessary to dwell upon the absolute importance of antiseptic surgery. Its latest and most brilliant results have lately been seen in brain surgery. It is not only possible to reach and drain abscesses in the temporo-sphenoidal lobe of the cerebrum, but it is considered possible to save life by opening into the cerebellar fossæ and remove pus from the neighborhood of the lateral sinus. The antiseptic treatment of chronic purulent disease of the middle ear was a natural sequence, and was soon followed by the use of boracic acid in powder and solution, later by bichloride of mercury, alone and in combination, then by the use of antiseptic wool and gauze, with the protecting agency of oil-silk, which protectors act as artificial membranes and prevent the entrance of disease-germs from the air.

The author then referred to the various causes preventing the cure of chronic discharge from the ear, also the treatment of perforations of the membrana tympani by means of grafts of skin, lining membrane of the chicken's egg, skin of the frog's foot, and nictitating membrane of the frog's foot. The paper concluded by reporting a few cases in illustration of the subject.

Dr. F. H. Potter, of Buffalo, N. Y., then read a paper on

THE USE OF MENTHOL IN THE UPPER AIR-PASSAGES,

with the results of its use by him during the past three years by local application. These results indicate that the drug controls superficial inflammation; that it is an analgesic, and second application can be made in increasing strength without discomfort; that it is destructive of some of the low forms of life, especially the bacillus tuberculosis, and that it is a valuable antiseptic in nasal surgery. It has an important place in the treatment of atrophic conditions. It can be used in strength of from one to fifty per cent. dissolved in oil. The oleum petrolia the author considers the best for the purpose of dissolving the drug. It can be applied directly by cotton application, or by means of the spray or by vaporization. The direct method answers best in the pharynx, the spray and vapor for the nose and larynx. Five cases of laryngeal phthisis following upon disease of the lungs were also reported, in which the menthol treatment gave satisfactory results, the local conditions improving rapidly under its use.

Dr. Charles H. Knight, of New York, read a paper on

MENTHOL IN LARYNGEAL PHTHISIS.

Twenty cases, most of them of a severe type, treated with menthol applications, furnished the author ground for believing that this is a valuable agent in tubercular laryngitis. The drug was dissolved in fluid cosmolene in the proportion of a drachm or a drachm and a half to the ounce, and applied by means of a laryngeal syringe, or in the form of spray, by a nebulizer or vaporizer. In nearly all cases the subjective symptoms and the local appearance improved. In no case did complete healing of an ulcer take place. In this respect the author's experience does not bear out the representations of Rosenberg and others. Three propositions are offered: (1) Spontaneous cure of a tubercular ulcer of the larynx may occur; (2) a simple erosion or ulceration may be mistaken for a tubercular ulcer; (3) the best results from local treatment of the larynx may be expected in cases of incipient or limited pulmonary disease and in primary laryngeal tuberculosis.

Dr. H. Holbrook Curtis, of N. Y., then read a paper entitled

ANÆMIA AND ITS RELATION TO NASAL STENOSIS.

By a tabulation of cases he demonstrated that nearly all patients with stenosis were anæmic, the percentage of oxyhæmoglobin being only about one-half that of normal blood. In his experiments he had used the hæmatoscope of Hénocque, and had again tested the blood after several weeks had elapsed. The conclusions arrived at were that the increase of oxyhæmoglobin in the blood after operation on the septum is directly proportional to the relief afforded an impeded nasal respiration. This increase is constant, and averages about two per cent. in the six weeks immediately following operation, in which the stenosis is about fifty per cent., or in which the nose is doing one-half its work.

Cases should not be operated on whose blood shows by spectrum analysis less than six per cent. of oxyhæmoglobin, as profound hæmorrhage is apt to occur. Records had also been kept in regard to body weight, chest measurements, and capacity of the lungs by the spirometer. These factors also exhibit improvement after operation.

Dr. F. S. Crossfield, of Hartford, Conn., read a paper on

EPILEPSY CAUSED BY INTRANASAL DISEASE.

The author stated that the first case that came under his notice, in 1886, had all the appearance of some grave lesion of the lungs — emaciation, hacking cough, more severe at night, headache, night-sweats, and anorexia. Had epileptic convulsions, the first six years, twice a month, or oftener. Associated with this condition was marked nasal hypertrophy of both cavities, with deflected septum to left side, and exostosis, whose sharp angle pressed against the hypertrophied turbinated body; marked adenoid growth of the naso-pharynx; slight changes in the larynx. Epilepsy entirely disappeared when this pathological cause was removed, and the patient is now entirely well.

The second case was much like the first, only with slight enlargement of the pharyngeal tonsil. The epileptic seizures were much more frequent. This case likewise fully recovered on removal of the local cause.

Dr. J. G. Carpenter, of Stanford, Ky., read a paper entitled

INTERNAL EAR DEAFNESS.

The author said that many of the cases of internal ear deafness were due to nasal disease, and by curing the

latter the former is relieved. Nasal disease should be treated before structural lesions have taken place in the internal ear. Two cases were reported in illustration of his subject by the author.

DR. J. A. LIPPINCOTT, of Pittsburg, Pa., reported a case of

SCLEROSING MASTOIDITIS,

occurring subsequently to primary purulent mastoiditis interna; opening of mastoid; exposure of dura mater; recovery.

In September, 1885, the mastoid had been opened by another surgeon, and an abscess found and carefully cleansed. The wound had healed, and severe pain was relieved for six months, when it recurred, gradually becoming very severe, until July, 1886, when it came under the author's observation. Other measures failing, in October a considerable opening was made in the mastoid, which accomplished nothing, immediately. The condition became more and more serious. Convulsions finally set in. In May, 1887, a second operation was performed with the intention of making the opening sufficiently large and deep to give relief. In this attempt the dura mater was exposed to the extent of one-fourth of an inch in diameter at the bottom of the wound. The pain disappeared immediately. Convalescence was rapid. An examination a few days ago showed exemption from pain. Extreme pain had been the chief symptom, there having been no inflammatory appearances about the ear or the mastoid region. The patient was a young woman.

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THIRD DAY, THURSDAY, JUNE 27TH.

DR. D. N. RANKIN, of Pittsburg, Pa., read a paper entitled

EFFECTS OF NATURAL GAS UPON THE UPPER AIR-PASSAGES.

Natural gas was introduced to use in Pittsburg in 1883. It at first gave rise to great complaints. It made the air too dry to breathe; it ruined furniture by cracking the joints; it was repudiated by many who had tried it, and the apparatus for its use removed from their dwellings. Explosions also occurred. But it is a very cheap fuel and light, and experience taught how to use it without producing these effects. Chemical analysis shows it noxious to breathe. The pipes were at first made of too porous metal and leaked; now it is used without these defects, and is no longer breathed by the users, and no deleterious effects are produced upon them.

Patients suffering from its inhalation will complain at first of dryness of the throat and nares. This is followed by free discharge of naso-purulent matter from these cavities. After this the dryness recurs, sometimes the symptoms extending to the larynx and producing hoarseness. Mirror examination shows congestion in the nose and pharynx, and great sensibility exists in these parts, promptly relieved by a four per cent. solution of cocaine, followed by vaseline to the nose and throat.

DR. GEORGE A. RICHARDS, of New York, read a paper on

EMPYEMA OF THE FRONTAL SINUSES.

The author reports a case of empyema of the frontal sinuses due to obliteration of the infundibulum by a polypi which had existed fifteen years. The empyema had produced absorption of the lower wall of the sinus, and a small tumor had appeared at the root of the nose about eight months before the patient presented himself for treatment. An opening was made into the swelling, and a tube passed through into the nose, after about twenty polypi had first been removed. After thorough cleansing thrice daily for about a month, the patient completely recovered. Sight improved at once, and complete relief to a very marked anorexia, and great improvement in the general health as well as in breathing and smell.

Of forty-eight cases collected by the author from literature, only fourteen were the result of injury, and but seven the result of obstruction. Some cases occur many years after injury. The majority occur without known cause. The symptoms are more or less those of an ordinary coryza, together with a feeling of distention, exophthalmus, diplopia, failure of eyesight, and the appearance of a tumor over the superciliary ridge or at the root of the nose; hard at first, this soon becomes soft and fluctuating.

The only treatment is to make an extensive opening into the nose through which a perforated rubber tube should be passed. Cleanliness and free drainage are most important. Of twenty-five cases so treated cure resulted in twenty-three; in two result was not stated; while when drainage into the nose was neglected the results were not nearly so good. Death occurred in six cases; in four from secondary cerebral abscess; in one from meningitis, and in one from albuminuria.

DR. C. W. RICHARDSON, of Washington, D. C., read a paper on

POSSIBLE DANGER OF INJURY TO THE MIDDLE EAR BY THE USE OF NASAL ATOMIZATION.

The author anticipated criticism as to the reality of such dangers being very great. He wished especially to call attention to the danger to the middle ear from the use of such spray instruments as Davidson's and Snowdon's atomizing tubes because of the direct pressure exerted. The first case was that of a lady. The author was spraying the nose to remove crusts with Dobell's solution. An acute pain was experienced in the ear; spray was cut off at once. This was followed in a few hours with typical acute middle-ear inflammation. The other two cases were similar ones.

The author thought it a common experience with rhinologists in spraying the nose to have the patient remark that he felt the spray go into his ear. He did not wish to decry the spray, a very useful means of treatment, but simply to point to the possible danger it involved and to caution against the indiscriminate prescribing hand-sprays to be used by the patient upon himself.

DR. JOSEPH A. WHITE, of Richmond, Va., read a paper entitled

THE SO-CALLED THIRD TONSIL.

The author believed that glandular hypertrophy in the post-nasal space, even when slight, is an active agent in keeping up a catarrhal condition of these and neighboring parts, and causing extension to the ear. To get rid of the catarrhal condition these growths must first be destroyed—the same treatment must be applied also to removal of the faucial tonsils for the same reason. We do not know the exact function of these tonsillar tissues, but we do know that their removal does no harm. Perhaps the third tonsil plays a greater part in the production of secondary disease than the faucial, and this is easily understood when their relation to obstructed respiration and ventilation of the Eustachian cavity is considered. Marked impairment is present in these cases.

Besides the mulberry-like growths there may be round projections or conical ones, or several knob-like swellings, or flat, cushion-like masses, etc. These growths are sometimes soft and easily removed, at others compact and tough, and hard to get rid of. The Eustachian tubes are apt to be especially infringed upon by the latter, from pressure. Statistics are unreliable, because careful examination and noting as to deafness is not often made by rhinologists. There is always more or less deafness where these growths exist. Out of 565 cases of private practice in eighteen months of naso pharyngeal affections, the author had found 197 had disease of the middle ear. Of these 134 had hypertrophy of the third tonsil—twenty per cent. of the whole number treated.

An interesting point is the large number of voice defects in these cases. This is scarcely understood, knowing as we do, in our experience with professional singers and others who habitually use the voice, the necessity of perfectly clear

arching of the naso-pharynx to secure perfect resonance and timbre.

The presence of these growths causes an increase of catarrhal secretion which can only be removed by eradication of the hypertrophies—the only local means which proves effective in treating the catarrh. Neglect of this may lead to more serious troubles; for example, anterior turbinated hypertrophy; another is the occasional paralysis of the alæ of the nose, causing serious impediment to breathing.

The method of removal is unimportant, provided it is thorough. Large masses are best removed with the galvano-cautery snare or cutting forceps, the latter is painful even with cocaine anæsthesia. Galvano-cautery points are best, perhaps, for soft, smooth masses.

The author had found his palate-retractor of great help in these operations. The paper was illustrated by reports of cases.

Dr. W. K. Simpson, of New York, reported a case of

ACUTE RHEUMATIC LARYNGITIS OF GONORRHŒAL ORIGIN.

The author remarked upon the extreme rarity of the case, not having been able to find reference to a similar one. Seen first on February 23, 1888. The patient gave the history of previous attacks of gonorrhœa, the present attack being of five weeks' duration. The rheumatic pains and stiffness had existed three weeks in both knees and hips, for three days in left thumb and wrist, presenting at this time typical swelling of acute rheumatism. Laryngeal symptoms began three days ago, with painful deglutition. On the following day there was a painful swelling of the lower external portion of the larynx. In the evening the patient became very hoarse, and talking was very painful. February 23d, examination of the throat revealed painful deglutition, pain on pressure over right side of larynx, and absence of cough. Internally, both arytenoids swollen and red, right much in excess, and somewhat œdematous; the right vocal cord immobile on phonation, all of interior of the larynx more or less hyperæmic, the right vocal cord being of a deep purple color and considerably swollen. The treatment consisted of the use of salicylic acid, which did not prove entirely effective. Laryngeal swelling increased, embarrassing respiration. On February 29th a blister was applied to external larynx, and iodide of potash administered. On March 6th he had greatly improved, but there still remained little motion of the right arytenoid and cord, and they were both still very red.

Dr. A. B. Thrasher, of Cincinnati, O, read a paper on

MORBID PERFORATIONS OF THE NASAL SEPTUM.

The author reported sixteen cases of morbid perforation of the septum narium, having special reference to the syphilitic theory of the origin of the disease. Three of the cases occurred in syphilitics, eleven where syphilis had not been present, and two cases were doubtful. In syphilitic cases the vomer, or at least one of the turbinates, was invariably attacked, and pain was always felt when this was the case. In the non-syphilitic cases the perforation, as a rule, gave rise to no symptoms; at times it seemed to have been caused by picking the nose with the finger-nail. There was localized anæsthesia in the ulcerated area. The application of the galvano-cautery produced no pain. The treatment consisted locally in detergents, caustics to the ulcerated area, and mild ointments; and internal remedies addressed to the underlying dyscrasia.

Dr. J. E. Schadle, of St. Paul, Minn., read a paper on

COUGH IN ITS RELATIONS TO MORBID STATES OF THE NASAL PASSAGES.

The symptomatology of morbid processes seldom furnish a more perplexing subject for analysis as to its primary cause than that of cough. A chronic cough which does not yield to ordinary treatment, and whose origin is obscure, is apt to excite extreme anxiety in the sufferer. The subject is interesting from its practical relations.

Three cases were reported, in which chronic cough of long standing was cured by directing proper measures of treatment to removal of existing nasal disease, consisting in one of posterior hypertrophies of the inferior turbinated bodies; another, of nasal stenosis caused by deformity of the nasal septum; and a third, of chronic nasal catarrh.

The author maintained that when cough is thus pathologically connected with morbid states of the nasal passages it is usually produced by reflex nervous influences or paresis of the vaso-motor blood-vessels of the intranasal mucous membrane.

Dr. Charles Denison, of Denver, Col., read a paper entitled

A NEW MOUTH-GAG, TOGETHER WITH THE CONSIDERATION OF OTHER POSSIBLE AND BETTER RESULTS FROM INTUBATION OF THE LARYNX.

The author presented a table of his twenty-five cases of intubation with seven recoveries. They were shown to be a severe class of cases. He had experimented to construct a better gag than those in use, and exhibited four of the new varieties made. One of these especially mentioned is so constructed as not to get out of place during the operation. A new feature of these gags is to have the teeth trough made somewhat swivel, so that they will fit any angle of the jaw—a child of any age.

The author thinks that he has discovered an indication for early operation. In two successful cases he was led to operate early, from noticing that the tension of the pulse was less during inspiration than during expiration, showing that there was suction of blood back into the pharynx during inspiration, because of the laryngeal constriction. This the author believes to be the first warning of danger and indication for intubation. In nine of his eighteen fatal cases death came at an average of twenty-six hours after intubation, and was attributable to the so-called aspiration pneumonia.

Dr. E. L. Shurley, of Detroit, Mich., presented a paper on

THE HOT-AIR TREATMENT OF PHTHISIS.

The paper was intended to simply report progress in the use of the Weigart apparatus. The author had used the apparatus in about twenty cases, but in only eight with that constancy and exclusiveness that would serve as a test.

Case I.—Obliged to discontinue treatment from pain caused to throat and lungs by the inhalations of hot air.

Case II.—Administered three or four times a day for fifteen minutes at 120° to 200° F., the latter only three times; 130° and 190° F. on several occasions. Immediate improvement followed.

Case III.—Caused nausea and vomiting, but hectic fever decreased and strength and flesh increased.

Case IV.—Febrile movement caused by treatment, also pain in the chest, with breathlessness and nausea; discontinued after ten days.

Case V.—Pulmonary and laryngeal phthisis. Administered for a week. Could not bear it longer.

Case VI.—Advanced stage of pulmonary phthisis. Given three times a day; could not bear it; discontinued.

Case VII.—Good effects.

Case VIII.—After fourteen days had to be stopped; apparently causing loss of appetite.

The author had found it impossible to apply the method for such a length of time as is reported to have been done in Germany.

Dr. Carl Seiler, of Philadelphia, read a paper entitled

CLINICAL OBSERVATIONS ON SOME CASES OF A PECULIAR CHARACTER,

in which he described the symptoms of a disease not yet well known, and which has as yet received no name. The

author had not seen the paper which he had recently learned that Dr. W. C. Glasgow read before the American Laryngological Association in Washington, at its late meeting, he therefore confined the paper to his own personal observations.

The run of symptoms of the cases observed by the author were summed up as follows:

1. Neuralgic muscular pains, usually in the back and chest, and often in the head, ears, and limbs.
2. Extreme debility.
3. Mucoid infiltration of the submucous tissues, and the formation of thin, white, pseudo-membranous patches on the surface of the mucous membrane.
4. Absence of febrile symptoms at first, and later, high temperature and low rate of pulse relatively.
5. Absence of albumen in the urine, and liability of heart failure.
6. Gradual melting away of the pseudo-membrane and the absence of any odor from it.
7. The wide geographical distribution in this country, and the infectious but not contagious nature of the disorder.
8. Finally, the specific action of benzoate of soda in relieving the symptoms promptly.

Dr. E. Cutter, of New York, reported the following two cases:

A case of

THYROTOMY FOR THE REMOVAL OF A SARCOMA,

operated on in 1886, was presented. The patient on whom the operation was performed could phonate. Reference was made to Dr. Hoffa's late paper, giving the statistics of thyrotomy since 1879, which were so successful as to justify the more frequent resort to this too-much dreaded operation. The case presented here was done without tracheotomy. The youngest case the reader had operated on was a child of twenty-two months—voice restored.

A case of

FIBROID OF THE RIGHT ARYTENOID,

operated on in 1868, by scarification, by a simple knife of the writer. Present state—permanent cure after twenty-one years.

A second like case of enlarged arytenoid, on an Irishman, was not successful. Tracheotomy tube inserted with relief. Patient visited Ohio. While there a physician removed the tube as useless, and the man died soon after.

Dr. Cutter proposed to change the name of the ventricular bands to "breath bands," on the ground that the false vocal cords are as true in their function as the true vocal cords, said function being the control of the breath in expiration, as seen in the laryngeal demonstrations by the author. The writer has waited five years for the systemic writers to rename these bands, with no response; hence this name is suggested.

(To be continued.)

## ASSOCIATION ITEMS.

Entertainments.—On Tuesday afternoon, June 25th, an excursion was made to the torpedo station. The visitors were received by Dr. J. C. Wise, of the Navy. A demonstration was made of the explosion of torpedoes, two being set off, and the guests were also instructed in some other of the mysteries of defensive warfare.

In the evening there was a reception in the Music Hall. The platform was tastefully decorated with flowers and potted plants, and some excellent music was furnished by the artillery band. An address of welcome was made by Mayor Coggeshall, on behalf of the citizens of Newport, and one by Dr. H. E. Turner, on behalf of the Newport physicians. Dr. Turner's address was devoted chiefly to sketches of the famous physicians of Newport, beginning with "the old French doctor," Norbert Félicien Vigneron, who came to the city and married one of its daughters in 1704. An oration on Dr. John Clarke, who procured the charter of Rhode Island from King Charles II., in 1663, was then delivered by ex-Senator W. P. Sheffield.

On Wednesday afternoon an excursion was made to Coasters' Island, to inspect the training-ship New Hampshire, and to witness a battalion drill of the boys of the Training School. The visitors were introduced by Dr. J. L. Neilson, of the Navy. In the evening there was a concert at the Opera House.

On Thursday afternoon the members of the Association, with their wives, visited Fort Adams and witnessed a light battery drill. They were introduced by Dr. S. M. Horton, of the Army. In the evening of the same day a reception was held in the parlors of the Ocean House. The music was furnished by the naval band.

On Friday afternoon the members went off for a clambake and a sail on Narraganset Bay, upon the invitation of the Rhode Island Medical Society.

Much credit is due the physicians of Newport for having made a success of the meeting in spite of many difficulties. The only complaint was of the lack of hotel accommodations, and this was, of course, unavoidable.

The Rush Monument Committee is having the experience of most other monument committees, and almost despairs of raising the needed $40,000. At the inception of the idea it was thought that this amount could be raised immediately by one-dollar subscriptions, but as yet the appeal has been responded to by only a fraction of the forty thousand.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, May* 16, 1889.

A. H. Smith, M.D., in the Chair.

Dr. W. Gilman Thompson read a paper (see p. 1) on

THE THERAPEUTIC VALUE OF OXYGEN INHALATION, WITH EXHIBITION OF ANIMALS UNDER HIGH PRESSURE OF OXYGEN.

Dr. J. West Roosevelt thought one explanation for convulsions occurring in animals sooner when under pressure of oxygen than under pressure of ordinary air was the fact that carbon dioxide was less soluble in compressed oxygen than in compressed air. He also thought that the amount of oxygen which the blood-plasma was capable of taking up was sufficiently variable to account for certain results in oxygen treatment of disease. The few cases of pneumonia in which benefit was supposed to have resulted from inhalation of compressed oxygen were not to be taken as conclusive, for in an equal number of cases other methods might have been, and frequently were, quite as successful.

In neurotic dyspnœa, referred to by the author, he thought benefit was to be derived from oxygen or any other forced form of inhalation. The treatment was useful from two stand-points: first, by calling the patient's attention to the process he breathed better, deeper; second, the moral impression led him to feel that he was suffering less from dyspnœa.

In simple anæmia of girls he had found patients do better under the use of oxygen in connection with the administration of iron than under iron alone. The explanation might not be ready, yet he could hardly avoid the conclusion that the diminished hæmoglobin was enabled, under oxygen pressure, to take up more oxygen, which amounted practically to breathing more pure air. It was not to be assumed that the blood-plasma was always saturated with oxygen. Like Dr. Thompson, he had seen markedly beneficial results in some cases belonging to the class of patients referred to, in whom the lung-surface exposed to the air was diminished.

Dr. George L. Peabody thought it was a matter of extreme difficulty to arrive at a conclusion as to the real value of a given therapeutic procedure when applied with others, especially in chronic diseases. Of course, reference was made to curative results, and not to immediate effects upon symptoms. The earlier attempts to impart more oxygen than usual to the body were made by placing materials which originated it into the alimentary canal, especially the chlorate of potassium. But materials which readily gave up their oxygen in the animal organism when introduced in any considerable quantity, must act as caustics at the site of application. Later it was surmised that the blood could take up unusual quantities of oxygen through the lungs. This might be possible if oxygen were simply absorbed, but such was not the case; it entered into chemical combination with the hæmoglobin of the blood. Under high pressure, ten atmospheres for example, the arterial blood did become somewhat richer in oxygen, but practically the amount of oxygen taken up depended upon the amount of hæmoglobin. In attempting to administer ozone in water it lost its character by chemical union with substances on the mucous surfaces, and might thus do actual harm, instead of proving to be a therapeutic measure. Dr. Peabody said he was among those who believed there was grave reason to doubt the therapeutic value of oxygen in the vast majority of cases in which it was used. He could not help believing that its efficacy in many symptomatic states was not greater than that of pure air administered in the same way. Oxygen inhalation seemed to be most justifiable in certain maladies attended by dyspnœa in which the blood was overcharged with carbonic acid. In diseases of the respiratory apparatus, with extreme dyspnœa and obstruction of the passages, as in severe catarrhal bronchitis, emphysema, asthma, pleuritic effusions, etc., relief might be obtained by oxygen inhalation.

His own experience with oxygen in illuminating-gas poisoning was the same as Dr. Thompson's. He had repeatedly used it in numerous instances for a long period without relieving the patient subjectively or objectively. He believed there was no justification for the use of oxygen in such affections as gout, uric acid diathesis, in which there was presumably imperfect oxidation. The benefit which had been claimed was probably due to pulmonary gymnastics, which the treatment necessitated. As to its value in anæmia and chlorosis, it must be remembered that patients with these affections frequently got well under most varying treatment.

Dr. Beverley Robinson thought he had seen absolute proof of the direct, immediate, therapeutic action of the inhalation of pure oxygen in the treatment of certain diseases. He had seen in numerous cases of simple anæmia much more marked improvement from the use of oxygen in combination with the use of iron than from other methods. He had also seen benefit from oxygen in albuminuria in atrophic nephritis. In a very large number of cases the oxygen treatment improved the digestion and assimilation, and in as far as it did that it seemed to Dr. Robinson to have a very wide field of utility. In phthisis he believed it had no direct curative effect, but he thought it proper to use it, because, first, it forced patients to expand their lungs; second, because there was reason to believe it might act in some degree as an antiseptic; third, it was useful in improving the nutrition. The amount of oxygen which the blood-plasma could appropriate was said to be limited, but the use of oxygen might stimulate the formation of hæmoglobin, and in that way be of benefit. He did not think the physician should allow himself to be guided in an absolute way in the oxygen treatment by the results of experimentation on animals.

Dr. Walter Mendelson was inclined, so far as concerned the clinical use of oxygen, to agree with Dr. Peabody. In cases of anæmia he had certainly seen some very marked results. For instance, in the case of an old man in the hospital various remedies were tried without effect until they began administering ten gallons of oxygen a day, when the improvement was marked. This might, however, have been due to the systematic exercise which the patient underwent during the inhalation, and the fact that he felt something active was being done. In dyspnœa from various causes he had generally seen immediate relief, although sometimes it was not very striking; but, as he recalled the cases, all the patients finally died, usually of the cause which had produced the dyspnœa. Still, he believed that in their last moments they were rendered more comfortable by the use of oxygen.

Dr. Putnam-Jacobi stated that in various forms of asphyxia it was observed that the amount of oxygen which the hæmoglobin carried was being continually diminished, although its physiological capacity might have a maximum limit. It was in these cases that Dr. Thompson had found evidence of benefit from oxygen inhalation, and it was in just such cases that one would expect the agent to have a therapeutic value. Here clinical experience coincided with physiological law. On the other hand, in the form of anæmia spoken of there was a reversed condition; the amount of hæmoglobin was diminished, and for that reason the system suffered want of oxygen. The way to increase the capacity of the blood for oxygen was to increase the metabolism in the tissues; this latter was stimulated by the presence of an increased amount of albumen.

The President confessed to a good deal of pleasure in finding that the paper and the discussion in the main confirmed the work which he had done in this direction twenty years ago. One point he thought deserved more emphasis, namely, that the blood in different conditions might not be fully saturated with oxygen, for the point of saturation corresponded to the full extreme physiological demand. If one's blood were fully saturated with oxygen under ordinary circumstances, how would it be when he took his place in the university boat-crew? He thought there was a margin, and a pretty wide one, between the conditions which ordinarily existed in life and the extreme provisions which nature had made for extraordinary conditions, and it was, perhaps, just within this margin that an additional supply of oxygen might be appropriated by the blood. For example, if there were a pathological condition present in which the demand for oxygen was not supplied with ordinary respiration, and might be supplied if the patient breathed thirty or forty times a minute with twice the usual exertion, the physician might tell the patient to breathe in that way, but he would know that ordinarily that would not be possible. To save the patient extreme respiratory effort to expand the lungs under ordinary conditions of the atmosphere, the object might be accomplished by giving him oxygen to inhale. It seemed to him that this very nearly marked the limit of benefit to be derived from oxygen treatment, except in those conditions pointed out by previous speakers, in which there was diminished surface exposure of oxygen within the lungs. The conditions in which most benefit had resulted in his experience had been, on the one hand, catarrhal troubles, as suffocating bronchitis, and opium-poisoning on the other. In opium-poisoning he had at one time supposed the benefit from oxygen inhalation was due to the fact that in the ordinary atmosphere the diminished number of respirations failed to supply the blood with sufficient oxygen, a difficulty which was overcome by supplying the agent in a pure state. But subsequently he had seen patients suffering from profound opium narcosis, with the respiration not diminished notably in frequency or amplitude, yet markedly benefited by oxygen inhalation. The inference was that for some reason the blood in opium-poisoning did not take up as much oxygen from ordinary air as from air containing oxygen in excess.

When it came to the question of inhaling oxygen under pressure, there were so many points to be considered of a mechanical nature that it was difficult to say how much the results were to be attributed to the influence of the

oxygen itself. He thought the convulsions, or even sudden deaths which were observed to take place after removal of the person or animal from compressed air, could be accounted for by the marked change in the distribution of the blood.

DR. THOMPSON, in closing the discussion, said some of the questions raised belonged to another department of the subject, which time did not permit him to fully consider. He would say, in reply to the President's remarks, that under ordinary respiration the arterial blood, as it left the lungs, had been found nearly saturated with oxygen. With regard to its taking up more oxygen under muscular exercise, here other questions, relating to rapidity of heart-action, etc., arose for consideration. In merely referring to the phase of the subject discussed by Dr. Putnam-Jacobi, he might say, as showing the importance of the unknown quantity, that animals suffering from asphyxia, after being deprived of a certain amount of oxygen, yet had more oxygen in their blood than some anæmic patients who did not appear to suffer from asphyxia in the least. Dr. Robinson having alluded to Brown-Séquard's assertion that pure oxygen was more irritating to the respiratory surfaces than nitrogen monoxide, Dr. Thompson said he had found, as had also other observers, no specially irritating effects, or burning of the tissues as it were, from pure oxygen.

THE PRESIDENT remarked that he had kept an animal four days in pure oxygen without any change in its condition.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending June 29, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 9 | 2 |
| Scarlet fever | 70 | 7 |
| Cerebro-spinal meningists | 3 | 3 |
| Measles | 86 | 6 |
| Diphtheria | 101 | 32 |
| Small-pox | 1 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

ASSOCIATION OF ACTING ASSISTANT SURGEONS.—The Association of the Acting Assistant Surgeons of the United States Army held its first annual meeting at Newport, R. I., on Monday evening, June 24th. Seventy-seven members have been enrolled. The following list of officers was elected for the ensuing year: *President*—A. Reeves Jackson, M.D.; *Vice-Presidents*—J. L. Ord, M.D.; A. J. Comfort, M.D.; D. S. Lamb, M.D. *Treasurer*—R. J. Dunglison, M.D. *Registrar*—Benjamin L. Holt, M.D. *Recorder*—W. Thornton Parker, M.D. *Council*—H. M. Deeble, S. S. Turner, W. E. Saben, H. R. Porter, J. P. Pratt, H. E. Turner, S. B. Stone, John S. Warren, S. O. L. Potter, E. W. Thompson, John T. Nagle. Applications for membership should be addressed to W. Thornton Parker, M.D., Narraganset Pier, R. I.

AMERICAN MEDICAL EDITORS' ASSOCIATION.—A meeting of this association was held at the Casino, in Newport, on Monday evening, June 24th, Dr. Wile, President, in the chair. In the absence of the Secretary, Dr. I. N. Love was elected Secretary *pro tem.* Dr. Wile read the address of the evening on "Our Duties as Journalists and the Reforms we should Persistently Advocate." The paper was discussed by Dr. Dulles, of Philadelphia, Dr. Conners, of Detroit, Dr. Davis, of Chicago, and Dr. Love, of St. Louis. The following officers were elected for the ensuing year: *President*—I. N. Love, of St. Louis; *Vice-President*—C. W. Dulles, of Philadelphia; *Secretary*—J. L. Gray, of Chicago.

THE LATE W. BARBOUR, M.D., ACTING ASSISTANT SURGEON, UNITED STATES ARMY.—At the Annual Meeting of the Association of Acting Assistant Surgeons, United States Army, held in the Casino, at Newport, R. I., June 24, 1889, the following resolutions were adopted:

*Resolved*, That the Association of Acting Assistant Surgeons, United States Army, has learned with sincere regret of the decease of the late W. Barbour, M.D., late Acting Assistant Surgeon, United States Army. The Medical Department of the Army has, by the death of Dr. Barbour, lost a faithful and valuable officer, the medical profession a worthy member, his many friends a sincere and manly companion. Dr. Barbour had been long in the service, and had made an honorable record. He died at the post of duty from disease contracted in efforts to save human life, and his faithfulness is a bright example of professional honor.

*Resolved*, That a copy of these resolutions be sent to the New York MEDICAL RECORD, and also to the Surgeon-General's Office for transmission to his family.

HENRY E. TURNER, M.D.,
RICHARD C. MOORE, M.D.,
W. THORNTON PARKER, M.D.,
*Committee.*

RESOLUTIONS ON THE DEATH OF DR. JAMES B. HUNTER.—At the recent meeting of the New York Obstetrical Society, the following preamble and resolutions were adopted:

*Whereas*, It has pleased Almighty God, in His infinite wisdom, to remove from our midst our friend and colleague, James Bradbridge Hunter, in the prime of his life and in the morning of his usefulness; therefore, be it

*Resolved*, That while we bow in submission before His supreme will, we recognize in His fiat the loss of one beloved and honored by us all for his gentle virtues and manly qualities; of one who will long be regretted, and whose place will forever remain unfilled among us.

*Resolved*, That in his removal the entire profession of medicine in America suffers a loss which cannot fail to be appreciated by all connected with it.

*Resolved*, That the kind sympathy of this Society, for which he has done so much, and its sincere condolence be tendered to his bereaved family; and that it cause a copy of these resolutions to be spread upon its minutes, published in several of the daily and medical journals of the city, and transmitted to his immediate relatives.

T. GAILLARD THOMAS, M.D.,
CLEMENT CLEVELAND, M.D.,
HENRY CLARKE COE, M.D., *Committee.*

At a meeting of the Faculty of the New York Polyclinic, held June 20, 1889, the following preamble and resolutions were adopted:

*Whereas*, This institution has been called upon to mourn the loss of its President, the late Dr. James B. Hunter; therefore, be it

*Resolved*, That in the death of Dr. Hunter the Faculty of the Polyclinic has lost an active, efficient, and conscientious leader, and the Institution a teacher of rare experience, untiring devotion, and distinguished success.

*Resolved*, That we recognize that in the abrupt termination of his laborious, able, and worthy career, the medical profession has lost one of its most accomplished and honored members, one whose death we profoundly deplore, and whose memory we venerate.

*Resolved*, That we extend to his family our heartiest sympathy, assuring them that we too have lost a trusted companion and a loyal friend.

*Resolved*, That a copy of these resolutions be presented to the family of Dr. Hunter, and that they be published in the *New York Medical Journal*, THE MEDICAL RECORD, and the *American Journal of Obstetrics.*

(Signed)] PAUL F. MUNDÉ,
E. B. BRONSON,
D. B. DELAVAN,
*Committee.*

# The Medical Record

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## Original Articles.

### YELLOW FEVER.[1]

BY WOLFRED NELSON, C.M., M.D.,

MEMBER OF THE COLLEGE OF PHYSICIANS AND SURGEONS, PROVINCE OF QUEBEC, CANADA; LATE STATE BOARD OF HEALTH, PANAMA, SOUTH AMERICA, ETC.

MR. PRESIDENT AND GENTLEMEN: With your kind permission I shall read a brief paper on yellow fever, a theme at once interesting to all students of medicine, and presumably of marked interest to my confrères in the "Sunny South."

In what follows, I shall refer to my own experience of this dread disease at Panama, on the Pacific, and Colon, on the Atlantic, both ports of the Isthmus of Panama; my studies and observations on the West coast of Mexico, where I studied and traced its epidemics of 1883 and 1884; my experience in the hospitals of Cuba; and finally my visit to Florida, in the fall of 1887, when I deliberately forecast the epidemic that swept Jacksonville in 1888. My letter of warning to the people of Florida was published in the *Times-Union*, of Jacksonville, November 30, 1887, and was recalled *when the disease was upon them.*

Now, to return to the Isthmus of Panama, where I lived and practised from 1880 to 1885. I was back there twice in 1886, and twice in 1888, thus, to use an expressive phrase, bringing my knowledge down to date.

The yellow fever of the Isthmus of Panama I describe thus: It is an acute infectious disease, a specific fever, ordinarily not contagious; but under certain atmospheric conditions, not yet fully explained, the disease undoubtedly develops contagious properties and epidemics result.

Yellow fever is ushered in in a variety of ways. It may be preceded by languor or malaise. The invasion may be abrupt. Generally characterized by a chill, often very severe, lasting one, two, or three hours; the duration of the chill having a marked significance, severe chills marking nearly all fatal cases. Again, the disease may be ushered in by sudden nausea and faintness, without any warning, as in my own case during the Isthmian epidemic of 1880. Headache is always met with. I know of no exception to this statement. Frontal headache, a flushed face, and gastric irritability in new-comers within the yellow fever zone, is always very suspicious, a fact specially referred to in Dr. Belot's admirable book, "La Fièvre Jaune à La Havane." Generally the headache is frontal; it may be bi-parietal and occasionally occipito-frontal, but, to repeat, marked headache always. In dealing with specific yellow fever of the Isthmus of Panama, which, if respectability depends on its antiquity, is the oldest, most respectable, and fatal variety known—a history of constipation obtains in nearly all cases. I can recall but a single case as an exception to this well-known rule, and it was a case in my practice where the disease had been preceded by a malarial diarrhœa. No condition of health gives immunity. It aims at all, be they healthy or unhealthy. It has a specific rôle. From early youth to advanced age it pursues its death-dealing mission. It is true that the mortality among children is less than at puberty and beyond. Pains in the legs and sacral region, the latter often intense and agonizing. I shall never forget my own experience. It seemed as if a legion of fiends were trying to dig out—if I may use the expression—my sacrum with red-hot pincers. The pain is excruciating and indescribable. In the majority of patients, the face was red, just like the face is in scarlet fever—the boiled lobster color. The eyes at first were clear, providing that there had been no antecedent hepatic disease; later they became suffused, injected. The skin was hot and dry. In many cases a peculiar biting heat was felt (like the *calor mordax* of pneumonia). It produced a strange sensation, resembling a current of electricity playing over the extended head. Pulse hard and slow, varying from sixty-five to eighty. Temperature, first stage, 100° to 103°; where the cases proved fatal, in the first stage, rising to 104°, 106°, and 107°, the latter being the highest temperature noted by me in my practice; to fall slightly just before death. In the second stage, or "period of calm," as it is termed, it feels a remission only. At the beginning of the third stage, or the stage of "secondary fever," it rises again. Respiration, as one would expect during the "hot stages," is hurried. At times a peculiar moaning respiration of indescribable sadness. It fills the room and the vicinity. The respirations varied from thirty to forty per minute, and at the close of the third stage fifty to sixty, becoming less with the fall of the temperature just before death. Great thirst, nothing appeases it. Restlessness, no position giving any ease. Urine, at invasion, normal but high-colored. In the majority of cases on the Isthmus of Panama the patients died during the first stage, such was the blood-destroying intensity of the disease when all, or nearly all, of the symptoms detailed and to be detailed, appeared. They do not appear in any stated order.

Within twenty-fours hours of invasion all the symptoms are intensified. Sacral pain and headache increasing; gastric disturbance and epigastric tenderness developing early in many cases, the slightest pressure over the stomach causing intense pain and eliciting sharp cries. In cases where the brain symptoms were very marked, in some where patients were unconscious, the slightest pressure produced a contortion of the face and body. If deep-seated pressure was made they writhed on their beds, but the instant that it was removed they became quiet again. Next, nausea and vomiting, at first a clear fluid, well named "white vomit" by Surgeon-General Blair, of British Guiana, South America. Tongue at first slightly coated. I am dealing with complicated cases. In patients who had suffered from intermittents, or bilious remittents, what is termed the characteristic tongue of yellow fever was not found. As stated it was slightly furred, later the fur increases from behind forward, the tips and edges take on a deep red. Gums also become a fiery red, also the mucous membrane of the mouth and throat. The whole mucous tract suffers. Later, in the majority of cases, sore throat is complained of, due to stripping of the mucous membrane. Blood oozes from the denuded tongue and gums, giving an indescribable fetor to the breath; at times it collects on the teeth. In some cases a peculiar and characteristic odor is exhaled from the patient's body. Once recognized, it never will be forgotten. It somewhat resembles *l'odeur du cadavre* of French authors. The late Dr. Stone, of Louisiana, was the first American writer, I believe, to recognize it. As he states, it is a very bad omen.

[1] Being a paper read before the State Medical Society of Arkansas Pine Bluff Meeting, May 28, 1889.

When patients die in the first stage, the urine always shows a large amount of albumen. The temperature remains high, 104° to 107° F. Delirium, often quiet, marks the latter temperature. In some cases extending over more time—beyond the fourth or fifth day—the albumen does not appear until the close of the second or the beginning of the third stage. Albumen is a *sine qua non.* I know of no yellow fever without it, nor do any of my many friends practising within the tropics. It never was absent in Isthmian cases. I never have seen or heard of a case of specific yellow fever without it; never, either in the practice of Dr. L. Girerd, late Surgeon-in-Chief Panama Canal Company, in that of Dr. Didier, of the same service, or in the cases seen by my brother, the late Dr. George W. Nelson, at one time my partner, and later Resident Surgeon at the Canal Hospitals, Huerta Galla, Panama, giving a combined experience of hundreds and hundreds of cases. During an epidemic at Colon, in the fall of 1883, it swept the shipping, over one hundred and fifty cases, nearly all fatal. Again albumen in all cases. Suppression of urine is a late, and generally among the last symptoms. Where it is marked, they seldom recover. The bowels, if freely acted upon by the sulphate of soda, to be referred to, may not furnish any early information, diarrhœal motions produced by the soda being followed by "black vomit motions" in many fatal cases. These motions may precede or follow black vomit. No rule is absolute, or such material, well named, may only be seen at the autopsy. Black vomit follows the constant retching and the "white vomit" of Blair. Black vomit is happily named, and shows innumerable fine particles or flocculi named black vomit or "coffee ground vomit," or the *marc de café* of the French writers, whose books on yellow fever are among the latest and very best. Frequently patients, without the slightest warning, commence violent vomiting. It pours forth from mouth and nostrils, often threatening to choke them. I have seen a patient resting quietly on his back after the subsidence of the gnawing sacral pain, when a perfect flood of black vomit has spurted from his mouth and nostrils up into the air, over bedding, mosquito curtains, and the nurse. An old and intelligent writer on yellow fever, Dr. Dowell, has been singularly happy in his remark, that it is *per saltum.* So it is.

Here, I must pause and divide my yellow fever cases into two classes, and shall state that such are met on the Isthmus of Panama. One class I took the liberty of naming "uncomplicated," the other "complicated." By uncomplicated, I mean the disease occurring in new-comers. In these, brain symptoms and delirium were common. Such, almost without the classic exception, died. I never knew one to recover. The possession of full health meant rich blood and a better culture-fluid for the germs that destroy it—the absolute destruction of the blood being but a matter of three or four days. I can best illustrate this by a case in the practice of my valued friend, Dr. L. Girerd, to-day a retired practitioner living in Paris. In the case referred to, on the fourth day of the disease, he failed to get a single red corpuscle in the blood—not one. The heart was driving a fluid through the vessels—one incapable of nourishing the brain tissues. A fluid wholly devoid of the life-sustaining oxygen carried the red corpuscles. His crucial microscopic work revealed a fluid, and in it the débris of corpuscles; or, to use the old time word that I have applied to this condition in yellow fever, a necremia, or death of the blood. His patient, a titled foreigner, a magnificent specimen of manhood, who stood six feet four inches in his stockings, died a few hours later. The "complicated" cases occurred in those who had been on the Isthmus from six months to sixteen years, and of course were profoundly malarious. I say of course, as no man, woman, or child there escapes intense paludal poisoning. Sixteen years had failed to give the so-called acclimation to an American, Captain Dean. Specific yellow fever cut him off; he was my patient. An elderly Italian, M. Georgetti, after thirty-seven years' residence at Panama, died of specific yellow fever. I personally know a French gentleman in Guaymas, Mexico, who has spent over forty years on both coasts of Mexico. He went through epidemic after epidemic unscathed, but in the thirty-sixth year of his residence, after passing through the Guaymas epidemic of 1883, he came down with the disease in 1884, when a few cases appeared, as is usual following *all epidemics within the tropics*, and just escaped dying. He in person related his experience to me. Acclimation is only so-called; it is a myth, but quite in keeping with a lot of our gross ignorance regarding yellow fever. Nothing, absolutely nothing, protects against specific yellow fever, except having had the disease, a fact well known to all close students of the disease within the tropics.

With this digression as a preparatory statement I shall next consider the second stage, or "period of calm," as it is termed. There is a marked fall of temperature, but merely a remission, and most deceptive and dangerous it is. I can best illustrate this by actual cases. In two cases, both mine, during the epidemic of 1880; new arrivals; just married; he a Frenchman and Consul for France; she a Portuguese, aged seventeen. They had passed the first stage. His temperature had ran up to 106° F., hers to 105° F. Then came the deceptive "period of calm;" they felt so well that, despite my emphatic orders, they got up and walked about. He was in one room and she in another. In the woman's case, the secondary fever came on that night, together with a copious "vaginal hemorrhage," practically the equivalent of black vomit. She died within twelve hours of her walking about her rooms. His temperature again ran up. He died the next day. She, poor girl, was laid out in her wedding finery. They occupy a single grave in the Foreign Cemetery at Panama. Such, gentlemen, is malignant yellow fever as I know it.

As I have stated, yellow fever may be a disease of a single "access" or paroxysm. When it is so, the patient dies or enters on convalescence, such being the milder cases in Panama. Thus, it resolves itself into a sharp, clearly defined fever of a single paroxysm, or "access," as the French so expressively term it. As nearly all attacked died, the milder cases were the exceptions. In the great majority the "period of calm" was deceptive, the slightest imprudence on the part of the patient ending in death later, the remission—I have seen the temperature as low as 99 °F.—lasting from twenty-four to thirty-six hours; in cases marked by long chills, but twenty-four hours to merge into the third stage of the disease, or that of "secondary fever." I have faced three epidemics of small-pox, one at home, in Montreal, and two at Panama. The severe chills in that disease, initiating the severe and confluent cases, the high primary fever, the second stage, to merge into the high temperature of the secondary fever, consequent blood changes, and death. These cases, so familiar to me, have caused much thinking in connection with my studies in yellow fever and its blood changes. In a fatal case of confluent small-pox at Panama, without the slightest warning, I have seen a fluid that to the eyes was identical with black vomit, spurt from the mouth, high in air, over everything, staining the bedding just like black vomit; it was *per saltum.* To our life-currents we must look for information.

In the "third stage" the albumen appears, that is, if absent at close of "period of calm," it is invariably met here. Black vomit and black vomit motions, suppression of urine, brain symptoms, etc., in cases ending fatally in this stage, all the symptoms crowd each other, and death closes the scene.

In "uncomplicated" cases, or where violent delirium may be met, many painful scenes result. A young Englishman, the picture of health, as attested by his magnificent physique and rosy cheeks, was stricken on landing. He was my patient. The case closed with furious delirium. Four men had to take turns in holding him, until death closed one of the saddest of sights.

A few remarks regarding the "fever of acclimation" of some writers. This, mark you, is generally preceded by a slight chill, a rapid pulse, a flushed face, suffused eyes, with a trace of albumen in the urine—in a word, it is a very, very mild form of yellow fever, the febrile movement lasting twenty-four to thirty-six hours, the mildest type of an "access." Failing a trace of albumen, it is not a fever of acclimation—that is, to a tropical physician—and without the other symptoms, no subsequent protection may be expected. In fact, some profound students of the disease within the tropics consider it but a temporary protection; that in seasons of epidemic, while such are exposed in a lesser degree, still they are liable to contract the severe type.

Such, briefly told, is yellow fever on the Isthmus of Panama. I have seen and attended it, in both cities, Colon and Panama. I wish to add that it and other tropical diseases have caused, at a low estimate, fully 20.000 deaths on the line of the Panama Canal. The New York *World* of May 18, 1889, credits the French Consul at Colon with saying that 15,000 Frenchmen have died. This probably is a mistake. I believe 20,000, all told, will be a generous estimate. The heaviest dying known to me was in 1884, during that epidemic at Colon, in the shipping and on the Isthmus. In an article in *Harper's Weekly* of July 4, 1885, I placed the death-rate for that month at 653 officers and men of the Canal Company. I obtained the figures from an inside source. The Canal Company's statements, as published in *Le Bulletin du Canal Interocéanique*, were as mendacious as they were misleading. De Lesseps' last ditch, that absurd creation of a man in his second childhood, has cost 20,000 lives, over $200,000,000 in gold, has ruined hundreds of thousands of petty investors in France. Up to the hour of the crash, De Lesseps in person, while knowing the full truth, unblushingly told his fictions. Since 1884 he has known the whole truth. He is a wicked old man, who should be buried alive under his fictions.

Many of our confrères have fallen in the Isthmus. Some noble fellows are buried there—yellow fever, dysentry, and pernicious fever. Yellow fever must be seen and studied in its own habitats. The Isthmus is one of the earliest.

My visit to Tampa in November, 1887, impressed me in many ways, but what greatly interested me was to hear of cases of *non-albuminuric yellow fever*. These cases of so-called yellow fever, I believe, furnish that class of people who have had yellow fever two and three times. As may be inferred, I have no faith in any yellow fever without the invariable presence of albumen in the urine. I have yet to meet with or read of a well-authenticated case of secondary yellow fever. Nor do I know a single physician who has seen one.

Now I come to the subject of treatment; and here I most emphatically state that yellow fever has no treatment properly so-called. The host of so-called treatments justify my statement. How can a disease, according to the old view, characterized by the symptoms described by me, have one? Four centuries seem to have taught the profession nothing, or next to it. All that has been known with absolute certainty is that people got yellow fever and died; the world heard of the dying, and that from Cuba it makes periodic invasions of the Sunny South. The treatment of yellow fever is purely symptomatic, my early treatment up to 1884, and was that of the "Old School." May God forgive it for its ignorance and charlatanism! Many authors have made a *réchauffé* or rehash of the experience of others, they never having seen a case themselves. They are responsible for much ignorance, *if not worse*. Having tried all the so-called orthodox treatments, I, previous to the fall of 1884, settled on the following: On being called to see a patient at the outset, I played a trump card and made quinine the diagnostic agent. We must bear in mind that a few hours in such cases may mean a life saved or lost. The following was the mixture:

℞. Quin. sulph ..... ℥ j.
Acid. sulph. dil., B. Phar..... ℥ ij.
Soda sulph..... ℥ j.
Tinct. Card. co..... ℥ ij.
Aq ..... ad ℥ viij.

Misce fiat mistura. Sig.: Take a quarter at once and repeat in two hours.

This mixture, given French fashion, in potions, or portions, well diluted with water, made a perfect solution and was readily absorbed. It was my "multicharge gun." It gave me the best results. Hot baths. Pilocarpine in one case, aconite, etc., were in order, to produce free action of the skin. If the cases were purely malarial, the quinine and sulphate of soda met all the indications. The sulphate of soda acts like a charm, free, bilious motions following. Every dose contained fifteen grains of quinine and half an ounce of sulphate of soda. If after two doses the temperature remained high, 100° and upward, with the usual symptoms, yellow fever was the verdict. Valuable time had been saved; the bowels freely acted upon, a most important indication. Later, I added to this treatment the following: A phosphoric acid mixture every hour or two, largely diluted with water; gave it and it only, purposely to bring about an acid condition of the blood. In a few words, to make it wholly uninhabitable to the germs. I adopted this course only after serious thought, and said to a medical friend, "My next patient with yellow fever gets well or dies on phosphoric acid." I explained it to two friends, Dr. L. Girerd and Dr. Arthur Gore, who saw my cases; also, to Dr. Bransford, United States Navy, who crossed the Isthmus on his way to Nicaragua. Previous to my adoption of this purely acid treatment, following the quinine and soda mixture, my patients kept on dying in a way that was simply appalling. Not that I lost more than my confrères. Our helplessness dazed me. As stated, after mature deliberation, I settled on phosphoric acid, well diluted, for life or death. Three cases so treated, all in succession, got well, an absolutely unheard of thing there. I had friends see them, knowing as I do what unbelief and professional jealously will do. My reasoning was sound. The acid did not destroy the oxygen-bearing function of the red corpuscles, while the germs of the yellow fever did, and so killed my patients. By rendering the blood acid these germs could not live and reproduce. They were destroyed *in situ* and the blood ceased to be a culture-fluid. Any student of medicine familiar with bacilli and their cultures, knows full well that even faintly acid solutions are fatal to the propagation of bacilli. Such was my reasoning as far back as 1884. I have the notes on those cases, taking full notes on all, as I had been taught to do while a student at the Montreal General Hospital, 1868-72.

The blood is the habitat of the germs of yellow fever. When my first case in the series of three demanded my attention, alas! I could not procure a reliable phosphoric acid, when I had to fall back on a formula published on p. 93, "United States Dispensatory," being that proposed by Mr. James T. Shinn, *American Journal of Pharmacy*, October, 1880, thus: "*Liquor Acidi Phosporici*. A similar preparation, under the name of Horsford's Acid Phosphate, has a large use in this country. The formula is as follows: *Liquor Acidi Phosphorici* (without iron); Calcii phosphat., 384 grains; Magnesii phosphat., 256 grains; Potassii phosphat., 192 grains; Acidi phosphorici (60 per cent.), 640 minims; Aq., q. s. to make a pint." As stated, not being able to procure a reliable phosphoric acid, I was forced to use Horsford's Acid phosphate. It, as I knew, was a standard preparation of uniform strength and excellence. I strongly object to employing a patent preparation, so to speak. Its contents or make-up was known, and it was "Hobson's choice." The preparation did all that I anticipated, and I give its formula as found in the "United States Dispensatory." I knew what I used. It is essentially a strong acid mixture.

To repeat, having given my quinine and sulphate of soda mixture, thus securing free motions from the bowels, the malarial element being eliminated by the non-effect

of the quinine; I then treated for yellow fever, thus: To bring about free action of the hot and burning skin was absolutely necessary. As stated at first, I tried hot baths, aconite, etc., and abandoned them, using a simpler and more effective means, in a vapor-bath, named in Peru as "Dr. Wilson's treatment," being that of an English physician who used it with great success during an epidemic there in 1854, and later. The patient was placed on a chair—one with a wooden seat—all clothing being removed; he was covered with blankets tucked in closely under the chin. A spirit-lamp was lit and placed under the chair, thus furnishing heat and vapor. To Dr. Wilson's vapor-bath I added a foot-bath, all under the blankets, the water as hot as the patient could bear it. Finally I grafted on some Jamaican treatment, giving a pint of hot lemonade or orange-leaf tea. Under this triad, a profuse perspiration followed, usually within ten minutes; it fairly ran off them. As soon as it was freely established they felt better. The scarlet hue of the face faded. The hard pulse became softer. If the bath caused faintness, that was guarded against by a shorter exposure. With this I had no unpleasant symptoms, but with nitrate of pilocarpine, profound pallor and faintness in a well-nourished man caused me alarm. I tried it in but a single case, and that was previous to my knowing of Wilson's vapor-bath. The necessary exposure being made, ten to fifteen or twenty minutes, the patient stood up, the chair was slipped from below the blankets and he was lifted into bed *en masse* to prevent any escape of heat or moisture. More blankets were put over him. In some cases the perspiring lasted one or two hours, to the marked relief of the patient and the lessening of all the symptoms. After a variable time, the skin again became hot and dry, when the same procedure was repeated, as often as necessary. Thus, two highly important indications were met at the very outset. First, under the quinine and soda, free motions from the bowels were secured; remember the marked constipation in these cases, often extending over three or four days, while the man had been eating as usual. Secondly, full and free action of the skin. According to my way of thinking and reasoning, the patient was placed under the most favorable conditions for fighting the disease. Generally large quantities of fecal matter were voided, and the pores were thoroughly opened. Next, the rest of the treatment was in order. It was of the simplest. A teaspoonful of the acid phosphate in a half tumbler of water, every hour or two, day and night, for the first twenty-four hours. It never caused nausea. I continued it for two or three days, according to temperature of patient and symptoms. The bowels continued to act freely—bilious motions. Later they became very dark under the acid. Previously, I had used sinapisms and a lot of things recommended by the books, and those supposed to be experienced in treating the disease. The sinapisms were placed over the stomach to try and check the distressing vomiting. At times they were beneficial; again, useless. Diet in these cases is a matter of very small importance. They were too busy with the disease. I fail to recall a single case where food of any kind was asked for. The highly irritable stomach must be remembered. Iced milk and beef broth in very small quantities, at frequent intervals, *if the stomach tolerates them.* Iced lemonade and pure soda water. Small pieces of ice allowed to dissolve in the mouth. I gave champagne a fair trial, and abandoned it. I am satisfied that the purely acid treatment is ample. The simpler the treatment the better. The quinine and sulphate of soda mixture, vapor-baths *à la* Wilson, and the acid meet all requirements. I abandoned the old time treatment. As I have already informed you, I had three recoveries, one after the other, all in infected premises where the previously attacked had died. These recoveries were in the fall of 1884. Early in the spring of 1885—March—I left for my annual holiday, visiting Nicaragua, when I returned to the Isthmus, to leave it, April 25th, for New York City.

Three swallows do not make a summer, nor do I claim that three successive recoveries are everything; but as nearly all attacked died, I do earnestly claim that three successive cases getting well furnish food for thought. Personally, I am satisfied that, by persistently acidulating the life-currents, they ceased to be blood-heat culture-fluids for the germs of yellow fever. I say germs. The following facts, I believe, will strengthen my claim that three successive recoveries were absolutely unheard of at Panama. A few words regarding the dying from yellow fever thereaway. I can recall twenty-seven admissions to the yellow fever ward of the Canal Hospitals, Panama, with but a single recovery. My brother, the late Dr. George W. Nelson, then Resident Surgeon, furnished me with the figures. Of forty-two cases sent to the Charity Hospital, Panama, during the epidemic of 1880, when I had the disease, not a single recovery. As a concluding statement, I could amplify them to any extent—the Dingler expedition. Mr. Dingler and Mrs. Dingler, accompanied by Mr. and Miss Dingler, and a party of canal engineers—all told, a party of thirty-three—arrived at Colon in October, 1883; Mr. Dingler being the new Director-General of the canal works. Within six weeks of landing Count de Cuerno and Mr. Zimmerman were dead—specific yellow fever. Within fifteen months of the landing of that party of thirty-three, fourteen had had yellow fever, and but one recovered; Mr. Dingler losing his wife, son, and daughter. He was very patient and had been on the Isthmus previously. His regular life, no doubt, was the factor that saved him. Contrast three successive recoveries with the above—my cases were specific yellow fever.

As previously intimated, yellow fever spares none. While it is quite true that total abstainers have been swept away by it, it is equally true that, even in the severest cases, they have recovered, where the moderate drinker was lost from the start. Time and again, my own experience has confirmed this. The regular life, particularly within the tropics, is its own reward. In "Ziemssen's Encyclopædia," vol. ii., in the article on yellow fever much valuable information will be found on this very subject—the value of total abstinence. "Panama in 1855," Harper Bros., New York. "The Handbook of the Panama Railway," 1860, Dr. Otis, Harper Bros. Dr. L. Girerd's work on "Panama," published in 1883, in French, in Paris. All contain much information regarding that land of pestilence and death, as well as "Five Years in Panama," 1889, Belford, Clarke & Co., New York.

In reference to the inestimable benefits of total abstinence within the tropics, it simply confirms the opinion of a valued friend at Panama, the Consul-General of the United States, who, when asked, "How do you live in the tropics?" wittily replied: "It all depends on the *liver.*" So it does. An alcoholic liver in yellow fever means death.

The time allowed for the reading of this paper necessitates my leaving out much that I should like to discuss. I must ignore the interesting history of the disease and hasten on.

A few words or points on the after-treatment. The treatment during convalescence calls for constant watchfulness. It is here that malarial symptoms crop up in the cases of those who have been at Panama a few months. Dr. L. Girerd examined the blood of hundreds on arrival, and found it normal, in no case showing the malarial bacillus. After the first month he re-examined scores of them; the blood of all these showed it, simply confirming the statements to be found in Dr. Tomes' work, "Panama in 1855," statements amplified in Dr. L. Girerd's work.

To return to the stage of convalescence. I have known a beefsteak to cause death on the tenth day. During convalescence such patients are simply ravenous. Well do I recall my own intense hunger. Slops are in order, fluid food, given at short intervals, not to overload the stomach. Its irritability lasts for weeks and weeks. Bathing, a thorough washing of the patient's body and hair daily, in a weak carbolic bath, the thorough disinfection of the patient's effects and room.

The majority of cases were fatal on or before the fifth day, closing with black vomit, suppression of the urine, etc. In such patients it was a fever of single "access," or paroxysm. Other cases passed through the "period of calm" and died in the third stage, or that of "secondary fever," from the sixth to the ninth day. Cases of a typhoid character were rare. I saw but one, being that of my friend Dr. Arthur Gore, now in San Francisco, Cal.

The sequelæ: Boils, pimples, parotid swellings, and intermittent fever. Jaundice—It was of a rich canary color. It lasted a whole month. People were never curious about it, or anxious to ask me questions—not any.

Now for a very brief reference to *post-mortem* appearances. My small experience under this heading simply confirms what an old and clear-headed American writer has stated: "Yellow fever has no pathology." I refer to Dr. Grenville Dowell, whose little *brochure* contains a mine of information, or what the great French undertaker, M. de Lesseps, calls "an arsenal of facts."

The *post-mortem* findings are so variable in patients cut off by the same symptoms that no reliance can be placed upon them. I deem it a blood disease, pure and simple, and if my view is accepted, absence of any marked pathological changes, save in the blood itself, must be expected.

The liver: It presented a variety of conditions. I have found it fatty; again, fatty on section, showing an immense quantity of oil-globules; again, perfectly normal in size and color. The chamois-colored liver is supposed to be the characteristic liver. I never saw but one, and it was the only one found in nearly one hundred autopsies made at the Canal Hospitals, Panama, by Dr. S. Didier, a gentleman profoundly versed in yellow fever. He was born in one of its habitats, the Island of Martinique, French West Indies.

The kidneys: Nothing constant. I met them large and small; again, perfectly normal to the eye.

The stomach: This organ presented signs of acute inflammation. Generally its coats were thickened; it contained more or less black vomit; I saw nearly a pint in one case; its inner surface showing innumerable pink points or *foci* of congestion, and small deposits of blood. Dr. Castellanos, a physician to the Charity Hospital, Panama, a Spaniard, and formerly a hospital surgeon in Cuba, told me that it was the only constant condition found by him, and he, while there in Cuba, had made nearly one hundred and fifty autopsies.

The brain I never examined. Dr. L. Didier found nothing worthy of remark in his large experience. Nothing.

The blood: I always found it in a perfectly fluid condition. Remember the destruction of the corpuscles and the great amount of albumen eliminated by the kidneys. Its specific gravity, taken by me two hours after death, was nearly normal. To this fluid we must direct our whole attention. To repeat, I deem it a blood disease, pure and simple, and have held this view since 1884. Death in these cases is due to a true necræmia. If this view, which I believe is peculiar to myself, be proven, we have an explanation of the majority of symptoms of yellow fever, and, as already stated, it explains the absence of any characteristic pathological changes, save in the blood itself.

The brain symptoms are due purely and simply to the destruction of our oxygen carriers, the red corpuscles. The great Virchow attributes loss of consciousness to their failure to carry oxygen. By rendering the blood uninhabitable to the germs that prey upon and destroy the corpuscles, we triumph. Much remains to be explained about yellow fever. Many honest and patient toilers are at work on this great problem. I believe that with the discovery of the specific germ by Dr. Domingo Freire, of Rio de Janeiro, Brazil; by Dr. L. Girerd, at Panama, and its discovery by Dr. Carlos Findlay, in Havana; to his and the work of his friend, Dr. Delgado, of that city; add to this our knowledge of the truly wonderful strides made by these gentlemen in their bacteriological studies and inoculations; to the above, by acidulating the blood, as I have done, where it has invaded the system; with such factors the future seems full of hope to me. May it prove so. Having digressed I must get back to the *post-mortem* findings.

The bladder: Generally a few drachms of highly albuminous urine were found. Remember the suppression.

Black vomit has a peculiar odor, and is slightly acid to the taste. To clear up a vexed point in my mind, I collected some in one of my cases and tasted of it. It required a little courage, but I was in earnest and working for results. I may state, *inter alia*, that it will never compete favorably with other beverages. The "vomit," on settling, deposits coffee-ground "particles," the fluid above being the color of weak black tea. Black vomit is not bilious vomit. I tasted it to clear up this very point. Black vomit, as a symptom, is of grave import. It indicates advanced blood-changes, the beginning of the necræmia. While at Panama I sent friends specimens of my late patients. My rooms were miniature graveyards. Some "black vomit" sent to my old classmate, Dr. William Osler, then Professor of Clinical Medicine in the University of Pennsylvania, with other material, furnished *pabulum* for a lecture on "Vomited Matters." To-day he is Professor of Practice of Medicine in the Johns Hopkins University, Baltimore, Md., and Physician-in-Chief to the magnificent hospital of the same name.

To recapitulate: Now that Drs. Freire, Girerd, Findlay, and Delgado have found the same germ, Dr. Domingo Freire being the first investigator and its discoverer, to him the honor and credit are due. He caused others to work. Now that this has been accomplished, I firmly believe a new era is at hand, and that soon this constant reproach to our profession and much-vaunted modern civilization, the sway of yellow fever, is about to receive its *coup de grâce*. Inoculations will protect man against this awful disease as vaccine does against smallpox. Dr. L. Girerd proved his good faith in such a vaccine, if the term is permissible, by making attenuated cultures of the microbes of specific yellow fever, and by inoculating himself; and without carrying it to the full protective influence, he allowed himself to be bitten by mosquitoes (Dr. Carlos Findlay's discovery) that had been feeding on a man in the yellow-fever ward of the Canal Hospital, a case of specific yellow fever; the fifth day the mosquitoes were disturbed and allowed to bite him. The result was a mild yellow fever. I translated his report, and it was published in the *Canada Medical Record*, Montreal, in the fall of 1886, together with an editorial.

With inoculations to protect and prevent, and the purely acid treatment where the germs have invaded the system; with these and a strictly scientific quarantine *à la* Dr. Joseph Holt, our profession can save the lives of hundreds of thousands in the future, who, but for such measures, would die like rotten sheep. The acid, I believe, is a germicide in these cases. I like the term and make no apology for using it. Intermittent fever, as we well know, thanks to the crucial work of Leveran, Girerd, and Osler, has its *bacillus malariæ;* quinine is its germicide.

When these things are thoroughly understood and put in practice, travel within the tropics will be divested of its terrors. People ere visiting them for business or pleasure will be inoculated, and with quarantines *à la* Dr. Joseph Holt, the commerce of nations will be almost free and untrammelled.

Here, gentlemen, I must say farewell. I have to thank you for your kind attention and patience. In the near future I trust that you will recall these statements made in the presence of the members of the State Medical Society of Arkansas, on this the 28th of May, 1889.

Articles extensively quoted in preceding from author's papers as under:

"Yellow Fever Considered; its Relation to the State of California;" Ninth Biennial Report of the State Board of Health, 1886. Sacramento.

"Cuba in its Relation to the Southern United States; its Danger as a Disease-producing and Distributing Centre;" Tenth Biennial Report of the State Board of Health, California, 1888. Sacramento.

"The Present Tendencies to Epidemics;" Tenth Biennial Report of the State Board of Health, California, 1888. Sacramento.

"The Isthmus of Panama considered as a Disease-producing and Distributing Centre;" Tenth Biennial Report of the State Board of Health, California, 1888. Sacramento.

"The Holt System of Maritime Sanitation, or an Ideal Quarantine;" Tenth Biennial Report of the State Board of Health, California, 1888. Sacramento.

## THE INHIBITORY ACTION OF ANTISEPTICS.[1]

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THE views of the advanced workers and thinkers in the field of bacteriology, in its relation to practical surgery, are fairly well crystallized and harmonious so far as the basal facts are concerned. It has appeared to me for some time, however, that there was an unaccountable failure to recognize the great practical importance of a well-known fact, viz., the power of weak antiseptic solutions to temporarily suspend the vital processes of micro-organisms. Carbolic acid, for instance, in solution of one to twenty, will kill the majority of germs in a few minutes' time; on the other hand, the same species which would be destroyed by the above-named solution, if placed in a solution of one to three hundred, would have all their functions suspended, but would retain their vitality for an indefinite period. In a solution of one to three hundred and fifty, however, they would flourish luxuriantly.[2] In other words, their physiological processes are suspended by contact with a solution one-fifteenth as strong as that required to destroy them. A solution materially weaker than this fails to exert any restraining influence.

The disposition to ignore this important biological law has been manifested in a variety of ways, but perhaps most prominently by the unwarranted assumption that antiseptics are useless, or worse than useless, in the treatment of wounds unless applied in solutions strong enough to kill the germs. I was particularly impressed with the fallacy of this position by an editorial which appeared in a leading metropolitan weekly a few months since. (See "A Reaction against Antiseptics," in THE MEDICAL RECORD for November 17, 1888.) In this editorial Dr. Saenger is quoted as follows: "The disinfection of a living tissue he considers to be impossible. Either the tissue is free from germs, in which case there is no need of an antimycotic, or it is infiltrated with pathogenic fungi, in which case it is impossible to destroy the fungi without at the same time seriously injuring the tissue." These views of Dr. Saenger, approvingly quoted by THE MEDICAL RECORD, I believe to fairly represent the deliberate judgment and "working formulæ" of a large and intelligent contingent of the medical profession. The position taken is very plausible, and, indeed, so far as the specific statements are concerned, is entirely unassailable. To use antiseptics in the absence of micro-organisms would, of course, be extremely irrational; while the direct application of antimycotics strong enough to immediately kill the germs would undoubtedly produce considerable injury to the tissues. But this is only a part of the truth, and it does not follow because of these facts that antiseptics are useless as applications to wound surfaces. Such a conclusion ignores the inhibitory law above referred to. To kill a pathogenic organism is one thing; to inhibit or suspend its growth and functional activity is quite another.

What does the inhibition of bacterial action mean from a clinical stand-point? This question is best answered by stating what it means physiologically, which is, suspension of all those secretory or excretory processes which result in the production of ptomaïnes; and also complete arrest of the multiplication or numerical growth of the micro-organisms. This fact is of the highest importance. Robbed of their power to produce the chemical poisons known as ptomaïnes, to which the morbid processes of septic wounds are due, and especially when, in addition to this, they are rendered powerless to increase in numbers, the few septic organisms which primarily gain access to a wound are as harmless as so many particles of lifeless organic or inorganic matter. So long as they do not functionate they can do no harm.

While the micro-organisms are thus rendered temporarily inert, another important fact is to be borne in mind. The longer the living tissue-cell remains in contact with micro-organisms in an inactive state, the lower becomes their vitality, and the greater becomes the probability that the internecine contest between the tissue-cell and the organism, to which Virchow long ago called attention, will result in a victory for the former. It might be answered that whatever inhibits the micro-organism will also lower the vitality of the tissue-cell. But this does not logically follow, because, among other reasons, the change in the life-state of the micro-organism is somatic, while in the case of the tissue-cell it is molecular, viewing the tissues as a mass. There are dynamic forces back of the tissue-cell, in the great mechanism of life of which it forms a part, which reinforce and sustain it. The micro-organism has no such forces in reserve.

It seems clear to me that the sweeping assertion that an antiseptic application to a septic wound is useless unless strong enough to exert a distinctly germicidal effect, is not only a scientific mistake but a dangerous fallacy, leading to erroneous practice. If everything constituting the paraphernalia and environment of an operation, down to the skin through which the incision is to be made, is absolutely aseptic the use of antiseptics would be absurd, for they must be regarded as irritants, and, as compared with sepsis, simply as the lesser of two evils. As has been repeatedly said, the object, and the only object, of antiseptics, is asepsis. To drench the virgin tissues with chemical irritants during the progress of an aseptic operation is not only unnecessary but positively injurious, and entirely contrary to the teachings of antiseptic surgery in the light of its latest achievements. But when a wound is known to be, or there is good reason for believing that it is, infected, and especially if the infection is recent, the case is quite different. The use of antiseptics, as strong as the tissues will tolerate without undue irritation, is certainly dictated by the information which we now possess. Who has not seen a post-partum septic fever disappear after, and undoubtedly in consequence of, the intra-uterine, or even intra-vaginal, injection of a one-half per cent. solution of carbolic acid solution or its equivalent? Who has not seen an offensive septic wound-discharge, perhaps with constitutional symptoms, disappear under a similar treatment? Yet we all know that such a solution is not germicidal, but only inhibitive. It is not strong enough to kill, and can only suspend physiological activities.

The conditions which determine the success or failure of weak antiseptic solutions in morbid conditions, such as those just mentioned, are not always clear. It is probably dependent in large measure upon the degree and depth of tissue infiltration which exists at the time such treatment is instituted. If, as often happens, the chemical products are largely formed upon the surface, the combined irrigant and inhibitive action removes the cause, and with it the symptoms, as if by magic. But if, on the other hand, the germs have permeated and made their habitat deeply in the tissues, they are manifestly beyond the reach of surface

[1] Read before the Fort Wayne Academy of Medicine, May 13, 1889.
[2] Cheyne's Antiseptic Surgery, p. 262.

applications. Infiltration of the tissues forming the boundaries of a wound can scarcely occur without considerable surface infection, where the greater part of the ptomaïnes would be manufactured, to be absorbed from thence into the blood and lymph spaces. Hence, even after tissue infiltration has taken place, surface irrigation with antiseptics in inhibitive doses would remove the poisons already formed on the surface, as well as a very important source of their continued formation.

There is an interesting medical aspect of this question to which I will briefly refer. It is this: Can the general infectious diseases be rationally treated, in the light of existing facts, by an attempt to convert the blood into a solution of antiseptics strong enough to restrain or entirely prevent the physiological activities of micro-organisms contained in it, by means of the inhibitive action above referred to? It must be conceded at once that the killing of these germs, while in the blood, by a direct germicidal action, is not within the range of possibility, unless entirely new facts are discovered. Their lethal dose is probably the same here as elsewhere. There is not a single fact, so far as I know, which would justify us in assuming a difference in this respect.

The possibility or impossibility of their inhibition in the blood ought to be capable of a decision coming within the range of highest probability, if not of certainty. Let us glance for a moment at the principal factors which must enter into the solution of the problem.

The blood vascular system of an average adult contains, we will assume, twelve pounds avoirdupois. It probably varies within pretty wide limits, according to state of health, character and quantity of diet, condition of the various secretions, etc. But this is sufficiently accurate to form the basis of a calculation.

As to the kind of antiseptic to be considered, it may be remarked in passing that the mercurial salts, while conceded to be the most potent germicides under proper chemical conditions, are not entitled to the slightest consideration in this connection, inasmuch as they are now known to combine with any albuminous fluid, such as the liquor sanguinis, forming an albuminate of mercury, which is absolutely inert as an antiseptic. In view of this fact, the administration of fractional, frequently repeated doses of mercuric chloride for an antiseptic effect upon the blood is absurd.

Let us take carbolic acid as the basis of our calculation. We now know that it takes a solution, at least as strong as one to three hundred, or one-third of one per cent., to exert an inhibitive influence upon the common forms of micro-organisms in laboratory experiments. About the same proportion in the blood, it is fair to assume, would be required to be effective.

Twelve pounds of blood represent eighty-four thousand grains. To make a one-third of one per cent. solution of this quantity of fluid would require two hundred and eighty grains of carbolic acid, or about half an ounce of the pure crystallized acid. A dose of eight grains is considered by Huseman to be dangerous. The difference between eight and two hundred and eighty is so enormous as to make any comments unnecessary. It is certainly obvious that no antiseptic can be introduced into the blood in sufficient quantity to make the latter represent an antiseptic solution strong enough to have the slightest restraining influence upon the development of micro-organisms. Eight grains, if evenly distributed through the mass of blood, would be less than one-thirtieth of the amount required. A child weighing twenty-five pounds, and having about two pounds of blood, would require forty-six grains of carbolic acid to make the necessary antiseptic solution of the blood. There is not the slightest reason for believing that the largest quantity which it is possible to introduce into the blood would have any effect whatever upon the life phenomena of any bacteria which it might contain.

To all these deductions from laboratory experiments it may be objected that they are belied by clinical experience at the bedside. But, so far as I know, the diseases in which the administration of antiseptics has appeared to have a germicidal, or, at least, a modifying effect upon the germs which are the efficient causes of all infectious disease, have been those in which (as in dysentery, typhoid fever, etc.) the micro-organisms find their principal habitat and base of operations in the alimentary canal. The germs are thus probably brought into actual contact with the antiseptic solutions before absorption, when they might easily be sufficiently concentrated to have at least an inhibitive influence, and, under certain circumstances, possibly an actual germicidal effect. And especially in reference to the mercurial salts, which are so largely used in this way, they could exert their specific effect without being rendered inert by a chemical combination with albumen. But whatever the explanation may be, it seems clear that we must look in some other direction for it than that of blood disinfection from antiseptics held by it in solution. The following conclusions are offered:

1. Solutions of antiseptics one-fifteenth as strong as those required to kill a given germ (its lethal dose) will render it functionally inactive, and consequently harmless, in wounds during the continued action of the antiseptic and for a variable time thereafter. This should be called its inhibitive dose.

2. In solutions materially weaker than one-fifteenth the lethal dose bacteria will flourish, to all appearance, quite as well as though no antiseptic were present.

3. The inhibitive doses of the various antiseptics should be as accurately determined and as widely known as are their lethal doses; and should be studied with special reference to the different species of pathogenic and putrefactive organisms.

4. If wounds were irrigated, either continuously or at brief intervals, with inhibitive doses of antiseptics, surface bacteria could not manufacture ptomaïnes, the chief or only cause of morbid wound processes. Fresh infection of the wound would also be impossible.

5. A sufficient quantity of antiseptics to render the blood inhibitive in its effect upon any organisms which it might contain cannot at present be introduced into it.

6. The beneficial effects following the administration of antiseptics in dysentery, typhoid fever, and other diseases of that type, are probably due to the direct action upon the germs of the antiseptics before their absorption.

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## NOTES ON ENTERO-COLITIS IN INFANTS: ITS CAUSES AND TREATMENT.[1]

By JOHN LORD BABCOCK, M.D.,

ASSISTANT TO THE CHAIR OF CHILDREN'S DISEASES, ST. LOUIS POLYCLINIC.

When the genial sun of springtime opens the buds and greens the lawns, there always appear two concurrent phenomena in the medical journals. One of these is the article by the doctor who knows a great deal about cholera infantum, and the other is the advertisement of the patented baby-food man who knows a great deal more about it. Recognizing this fact, and in obedience to the unalterable law of this recurrence, I beg to offer the following notes, not as embodying a single idea that is new, but merely for the purpose of placing before you the general results of the study of a large amount of clinical material bearing upon an important subject.

The green and fetid diaper, like "the poor," we have with us always, and it is to this humble garment—which a friend of mine asserts to be the modest rudiment from which have been developed all of the beauties of the modern bustle—that we must direct our attention.

Before proceeding with the discussion of my subject, however, permit me a few words upon the closely allied, but very hackneyed, question of infant feeding by artificial means. In the clinic of the Post-graduate School of this city all of the proprietary foods have been weighed in the

[1] Read by title before the St. Louis Medical Society, May 18, 1889.

balance of practical experience and have been found wanting, although some of them have been found useful in emergencies, and those of them that involve the use of cow's milk are, to that extent, good. Many of them, as is well known, contain starchy substances, alleged to have been "converted into the soluble form of dextrine" by superheating. These foods, of course, do nourish children, and in many cases do it well; but their success is by no means universal, as we might be led to suppose by the advertising matter so copiously furnished us. Those consisting of "dried milk solids and soluble starch" are apt, in certain cases, to cause obstinate constipation, which in time produces intestinal irritation, so that the mother may be surprised to find her child, for this reason, suffering from a sudden and severe diarrhœa. They are by no means "ideal foods," and then our patients, who are numbered largely among the less wealthy classes, are not able to pay, and we ought not to ask them to pay, the advertising bills of these food-makers, which, I am told, form thirty per cent. of the cost of manufacturing (?) the article; for these foods when used exclusively are expensive. They have, however, a slight therapeutic value in checking a simple diarrhœa after the bowels are freed from irritation. The predigestion of milk with the animal ferments has been found in our cases to be impracticable. As has been well said, "the woman who can treat milk with the animal ferments does not have children."

The disgusting flavor of an over-digested sample of milk would make a well man ill, and one may imagine the results in the case of a sick child. This seems to be an instance of the cases in which the principle is sound, but the results unattainable in practice. Of course, in discussing this question, we must remember the inevitable baby that "ate anything," and was the healthiest baby in the recollection of the oldest inhabitant. Such an infant is almost always brought into the discussion of baby-feeding; but the survival of these remarkable youngsters on a diet of pie and pickles proves nothing, of course, but the well-known fact that a few children thrive on food upon which most children could not subsist. After a prolonged and careful study of this question from the stand-point of practice, we have come to the conclusion that the milk-and-cream food advocated by Dr. Arthur Meigs, of Philadelphia; Dr. Joseph Winters, of New York, and others, is, beyond any comparison, the best artificial food for infants. Its composition for an infant of six months is as follows: Milk, 3 parts; cream, 1 part; lime-water, 1 part; boiled water, 2 parts; and sugar of milk, 1 part. Solution of bicarbonate of soda, three grains to the ounce, may be substituted for the lime-water in case the baby is constipated. This food meets the general indication of resemblance to mother's milk in specific gravity, richness in fats, alkalinity, and sweetness.

The "hardness of the curd of cow's milk" is largely a bugbear that is kept before the profession by the public-spirited advertisers of prepared foods, who make such heroic efforts to defend our little patients from the poisonous curd of the milk of the malevolent cow. A stomach that has any physiological activities left can digest, with certainty, small amounts of this food. When you have to do with a depraved organ, modify the food by increasing the proportion of cream and lime-water, and give it in small, often-repeated doses. You are then not at the mercy of compounds of an unknown nature, that have been on druggists' shelves for an unknown time, and contain an unknown variety and number of micro-organisms or products of decomposition. You have the matter of feeding in your own hands, and experience with this milk-and-cream food will soon teach you to modify it to suit individual cases.

Anyone can now sterilize and preserve milk by the familiar and simple process of steaming. It is only necessary to have a deep kettle with a perforated tin false bottom, a tight-fitting cover, and a flat-iron to place on this cover. Milk in cotton-plugged bottles, each containing enough for one feeding only, can be steamed in such a simple apparatus for twenty-five minutes, and will remain sweet and good until used. As is the case with all foods, this milk-and-cream preparation occasionally does not agree with a child, but in our experience it has failed less often than any other. In four such cases condensed milk, which is often a very good temporary food—though I think a bad one for prolonged use—did well. Three others took very kindly to malted milk, and two others seemed to have a selective affinity to the dried milk and dextrine food. Inasmuch as milk-sugar is rather expensive, one-fourth the amount of cane-sugar may be substituted in cases of healthy children over six months of age. But with all children younger than that, and with older ones who are suffering from bowel or stomach disturbances, the milk-sugar will be found decidedly preferable.

A word right here in regard to your milk supply. Milk is the doctor's sheet-anchor to windward in treating these cases; but you will find that among the poorer classes the habit prevails of running into "the store for a nickel's worth o' milk," and the milk they get is a common cause of intestinal disturbance among young children. I am informed by the manager of one of the large milk companies of the city, that they sell to these groceries their "separated" milk, that is, milk that has been skimmed three times, so that the uttermost morsel of cream has been removed. This skimmed milk is watered by its purchaser, and then brought up to a better color by the addition of a little good milk. Then, after standing for an indefinite time in close quarters with ham, bad butter, decaying potatoes, codfish, and numerous other odoriferous specimens of the grocer's stock, it is sold at five cents a quart. A sample of this milk which I examined contained about three-fourths per cent. cream, was acid in reaction, bluish in color, had a disagreeable odor, and a specific gravity of 1.026, so that it must have been watered as well as skimmed, as the removal of the cream of course raises the specific gravity. This awful compound is fed to babies quite largely in St. Louis, and no doubt in other large cities also, and must take an important place among the causes of gastric disturbances among infants. Our safest plan is to order the milk we use from one of the three or four large companies. The chances of getting poor milk are thereby reduced to a minimum, and if it is sterilized at once, no trouble will be experienced.

Our patients' parents should at least be warned about this corner-grocery milk. The small dairies that abound in the outlying districts of the city are not to be trusted. They all possess a large "swill wagon," although, of course, none of their owners will admit that they ever feed the cows on brewery grains, better known as swill.

Considered from a clinical stand-point, infantile diarrhœas may be divided into four classes: First, the simple diarrhœa, that which is caused by intestinal irritation only; second, the inflammatory diarrhœa, due to entero-colitis, or, more rarely, either enteritis or colitis alone; third, the colliquative diarrhœa of cholera infantum; and fourth, the symptomatic diarrhœa which occurs with varying degrees of severity in almost all acute diseases, as well as in the minor ailments of childhood. Simple diarrhœa is due to the presence in the intestine of irritation in the form of fermenting or indigestible material. Its diagnosis and treatment present no difficulty. The catharsis is a conservative action on the part of nature, for the purpose of expelling from the economy useless or dangerous material. It is characterized by a discharge which differs from the normal in fluidity and frequency, and contains some partially digested matters, together with more or less flatus.

It is usually brought to a termination by a few doses of "rhubarb and soda." I cannot speak in too high praise of this simple mixture of our grandfathers. The rhubarb, as is well known, combines tonic and astringent as well as laxative principles, the former asserting itself after the latter has had its effect, and for this reason the rhubarb is the remedy *par excellence* for this condition, in com-

bination with the alkaline soda and a carminative, usually cinnamon, or, perhaps better, a few drops of an alcoholic solution of menthol. By gently stimulating the action of the bowels it aids nature in relieving itself of the cause of the trouble and does not leave the intestines in a relaxed condition. The well-known tendency of neurotic children, as well as of all very young infants, to suffer from convulsions directly after the sudden checking of a diarrhœa should always be borne in mind. It is unwise as well as unnecessary to check this form of diarrhœa at once. A dose of bismuth or paregoric would simply shut up in the bowels a mass of fermenting material much better out of them. In four of the cases which form the basis of this paper a simple diarrhœa was changed into a severe type of enteritis by "home treatment" consisting of paregoric, or what amounts to the same thing, "soothing syrup."

The victim of entero-colitis presents a very different picture. Here we have the infant suffering acutely from abdominal pains, the belly is tumid and tender. The child's appetite is lost, it loses flesh and strength progressively, and has from five to twenty movements of the bowels a day. The fæcal matter may be from a pale greenish to a grass-green color, or more or less blood-stained. It usually has a very foul odor. In severe cases which assume the dysenteric type and which are pathologically very similar to dysentery, the discharges consist largely of a watery, bloody mucus. In this disease there is always some rise of temperature, particularly in its earlier stages. The progressive emaciation becomes very marked when the disease assumes a chronic form. I am convinced that the cause of very many of these cases is the withholding of water from the thirsty infant. My attention was first directed to this point several years ago by Dr. Clarke, of Oswego, N. Y., and my experience with sick children has confirmed his views. Of course decomposing as well as improper foods, together with foul air, play an important part in its causation; but the importance of the deprivation of water as a cause has been too often overlooked. When a child drinks milk or any fluid food because it is thirsty, and not because it is hungry, it inevitably drinks too much. Its digestive apparatus is flooded with milk, which of course curdles rapidly, and the stomach has more than it can attend to. The result is simple and prompt. There is felt in that organ a greater or lesser amount of sour fermenting stuff, which makes the baby cross and feverish and thirsty. Its thirst is again quenched —not with cool water—but with another bottle of milk, which it takes eagerly enough, but which simply adds fuel to the fire and makes a bad matter worse. The intestines are soon filled with this fermenting mass, and the result is a simple diarrhœa.

The milk is copiously supplied to the child, however, and the simple diarrhœa soon runs into an entero-colitis, and perhaps the child dies from exhaustion or in a convulsion, while the parents, and possibly the doctor too, talk about a mysterious visitation of cholera infantum—most convenient and most misused of terms. I have made it routine practice to tell mothers to give their children all the water they want, and particularly in hot weather to always give the baby a drink of water before feeding it. Then the child will take milk to satisfy its hunger only, and will not drink too much of it. Having already taxed your patience with my remarks on feeding and the causes of entero-colitis, which, however, here as in all children's diseases, are by far the more important matter, my remarks on treatment will be quite brief, and in this connection allow me to say that my experience has been strongly confirmatory of the statements made by our colleague, Dr. Hendrix, in his paper read before this Society in June of last year, in which he spoke highly of the value of water in the treatment of diarrhœa in infants. The child that has a profuse diarrhœa absolutely needs water. There is an actual lessening of the total amount of fluids in the body caused by the serous flow from the bowel. Water never makes a diarrhœa worse. On the contrary, by flushing the kidneys and by furnishing fluid for the general interstitial circulation it lessens the morbid process by stimulating normal tissue-metamorphosis and thus increases the general vitality of the patient. In regard to each case it is necessary to find out first and chiefly about the diet of the child in answer to the questions, "What?" "How often?" and "How much?" Our one hundred and eight cases of entero-colitis presented about this history: First, a harmful diet or deprivation of water, or both, then a simple diarrhœa occurred, followed rapidly by the inflammatory diarrhœa of the disease.

Their treatment may be divided into three parts: First, the regulation of food and drink; second, the disinfecting treatment, including sometimes the high injection per rectum of large amounts of sterilized water; third, the opium and astringent treatment.

The regulation of food consisted usually in prescribing small amounts of the milk-and-cream food referred to above, with plenty of water. Small doses of calomel at short intervals for two days will often change the character of a foul, green, watery discharge to a much more normal color and consistence, and put your patients in a condition in which astringents may be given. Rhubarb and all resin-bearing purgatives must be carefully avoided when any inflammation exists. Dysenteric conditions are best treated by frequent small doses of magnesium sulphate. The rule of action in these cases, as in all the diseases of children, must be to give the smallest dose that will do the work, and the indication is to give the stomach and bowels rest by removing from them the irritation caused by the presence of fermenting matters and the products of decomposition and inflammation. To accomplish this we must, as much as possible, disinfect the contents of the alimentary canal, as well as remove them. Thanks to some of the recent additions to our list of drugs, it seems now to be possible to do this in many cases. To that end the diet as above is ordered, or, if the child is vomiting severely, no food at all is allowed for two days, and calomel, gr. $\frac{1}{8}$ to $\frac{1}{10}$ (this for a child of six months) given every hour until five doses are given, and these doses repeated next day, using stimulants as indicated. On the third day, if the green diarrhœa continues, salol, gr. 3 to gr. 5, may be given three times a day, laudanum gt. $\frac{1}{4}$ being added if severe pain exists. We have employed this treatment in seventeen cases, nine of which recovered rapidly, five were lost track of, and three did not do well. If the seat of the trouble is in the large intestine, the action of the salol does not reach it, and in these cases large enemata of sterilized, rather hot, water were given. A large, soft-rubber catheter was used, and it was gently inserted, injecting the fluid meanwhile, for its whole length. In two of these cases the improvement was very marked. The third case, which had been poisoned with brandy by its mother, died the day after the high injection was practised, although the enema relieved it of its colicky pain and tenesmus. If this general line of treatment is followed, you will be pleased to find, in many quite severe cases, that after the small doses of calomel have been taken for two days, if the directions as to food and drink are followed, the entero-colitis has about disappeared, under which conditions we have remaining a case of simple diarrhœa, which needs a few doses of the rhubarb and soda, to each of which from one-half to a drop of the tincture of nux vomica has been added, to effect the cure.

Bismuth or chalk mixture is very useful when the diarrhœa shows a tendency to become chronic, and should both be used in large doses in order to produce positive effects.

Just as some of our professional brethren make a practice of calling every severe case of tonsillitis, for obvious reasons, diphtheria, so do many medical men call most cases of entero-colitis in children cholera infantum, for possibly the same reasons. Cholera infantum is a rare disease; true "inflammation of the bowels" is only too commonly met with. Among two hundred and fifty cases

of diarrhœa at the Post-graduate School, within a year, excluding the "symptomatic" variety, we had only three cases of cholera infantum, properly so called.

This is not the time or place to speak of the differential diagnosis. Suffice it to say that the clinical pictures of the two diseases are as unlike as they well can be, and the confusion of the names is gross carelessness, if it is not something worse.

## VILLOUS TUMOR OF THE RECTUM.

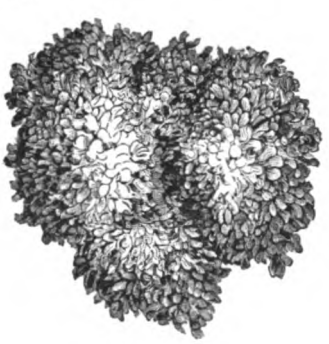
By GEORGE J. COOK, M.D.,

PRESIDENT OF THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION, CONSULTING SURGEON FOR DISEASES OF THE RECTUM TO THE INDIANAPOLIS CITY HOSPITAL AND INDIANAPOLIS CITY DISPENSARY, ETC.

On December 28, 1887, Dr. Cline, of this city, called me to see Mrs. S——, forty years of age, formerly robust and healthy, the mother of several children, and still menstruating. About five years previous she began to have, at times, some pain in the rectum and sacral region, dull and aching in character, and noticed occasionally a free discharge of mucus. These symptoms of rectal disease gradually increased until the pain became almost constant during the daytime, when she was up attending to her household duties, and the discharge of mucus was of daily occurrence. During the previous six months she had been losing flesh and strength rapidly, and now was confined to her bed most of the time, on account of general weakness and the distress in the rectum when in the upright position.

For two months past a tumor would present at the anus while straining at stool, but never entirely prolapsed, and occasionally some blood was lost. There was one natural passage from the bowels daily; but several times a day a large quantity of thin mucus would pass, sometimes a half pint or more at once. Her appetite was poor, could take but little food, and her skin was pale and waxy in appearance. Her history and appearance suggested some form of malignant disease.

On digital examination I recognized a tumor resting in the rectal pouch, well above the internal sphincter muscle. It was different from anything I had ever before felt in the rectum; so slippery that it was with difficulty held beneath the finger for examination, of a spongy consistence, with no induration, and firmly attached to the posterior rectal wall.



Tumor Removed.

When the patient was placed under an anæsthetic and the sphincters dilated, the tumor was easily drawn outside; it was the size of a large hen's egg, of a bright arterial color, had no pedicle, but grew from the gut wall by a broad base. A fold of mucous membrane was dragged down to allow it to come outside the anus. There was some thickening of the fibrous tissue at the base, and from this sprang long villous processes, which composed the bulk of the tumor. Each one of these increased in size from the base toward the free extremity, giving the ends a clubbed appearance.

The outline of the tumor was very distinct. There was no surrounding zone of congested or inflamed membrane, but the healthy tissue came up to the outer row of villi. The contrast in color was marked; the surrounding membrane was pale, owing to the great debility of the patient, and the tumor was of a bright arterial hue.

It was removed by passing a double ligature through the fold of mucous membrane above it, tying, then cutting off with the knife. The ligature came off after a few days, and the patient made a rapid recovery, soon becoming strong and more fleshy than ever before in her life.

I quote the following from the chapter on "Villous Tumors of the Rectum" in the latest edition of Allingham on "Diseases of the Rectum," issued last year:

"This is a rare but interesting disease. Mr. Quain in his work gives the details of only two cases that had fallen under his observation. I have seen eighteen examples of this growth; eleven in my own practice, three in St. Mark's Hospital, under the care of my late colleague Mr. Gowlland, one in the practice of my colleague Mr. Alfred Cooper, and three under Mr. Goodsall's care; added to these I only find reported two by Mr. Symes, one each by Messrs. Cripps, Gosselin, Van Buren, and Bryant—twenty-four in all."

It is indeed a rare surgical disease of which only twenty-four examples can be found recorded in surgical literature, this case making the twenty-fifth.

Some of these tumors are described as having distinct true pedicles; others broad pedicles composed of a fold of mucous membrane dragged down by the tumor; and others again, like this one, attached to the rectal wall by a broad base. Those having a true pedicle seem to be composed mostly of fibrous tissue, with the surface covered with villous processes, while those attached by a broad base are formed almost entirely by the elongated processes, thus differing in structure according to the varying proportion of the different elements. Hence we find the authors differing in their descriptions. One says they have a soft, velvety, villous feel, and a want of the solidity and firmness which is felt in large polypi; another says they have the feel of a large warty polypus, with cauliflower surface; and still another says they have the feel of a huge warty growth.

This tumor has been found only in adults, and the majority of the patients have been over fifty years of age. The prominent symptom is the discharge from the rectum of large quantities of thin mucus, increasing in amount as the tumor increases in size. This mucus must come from the enlarged villi, since, as in this case, the discharge immediately stopped when the tumor was removed, and, the surrounding mucous membrane was very pale and could not in that condition have secreted an excess of mucus. In many of the cases blood was lost in large quantities. Quain calls this the "peculiar bleeding tumor of the rectum." When any of the villi are broken, free bleeding will certainly occur; and when there is prolapse of the tumor during stool, and it is grasped firmly by the sphincter, such a result could scarcely be avoided, though the villi are not easily broken down or torn. There is a gradual loss of flesh and strength, and this without the loss of blood. In the present case the loss of strength and flesh began long before any blood passed away; so the general prostration must be attributed largely to the loss of mucus, which may amount to several pints daily. The tumor in time will be forced down and prolapse at stool, and when seen by the surgeon need not be mistaken for any other form of growth in the rectum.

Most authors describe these tumors as innocent in character, and seldom recurring after thorough removal; but Mr. Allingham states that they may recur as malignant growths, he having seen three cases in which epithelioma replaced the villous tumor.

18 West Ohio Street.

A Medical College in Chicago has been sued in the sum of $5,000 for refusing a ticket of attendance to a lady medical student. The college claimed that she did not apply early enough in the season.

## APPARATUS FOR STERILIZING MILK.[1]

By T. M. CHEESMAN, M.D.,

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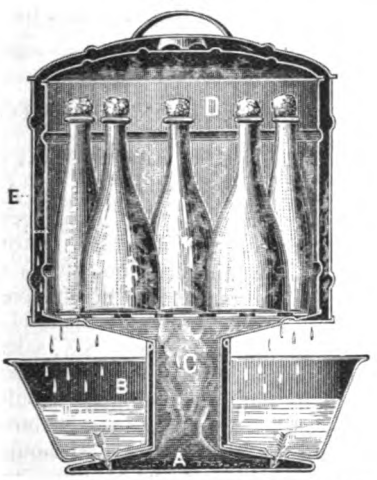
THE necessity for sterilizing infant food, more particularly during the hot seasons, is my reason for drawing your attention to a sterilizing apparatus, which is known as the "Arnold Steam Sterilizer." It was introduced into the laboratory of the Alumni Association of the College of Physicians and Surgeons by Dr. Prudden, for sterilizing culture media, and its recommendation comes from a thorough test of its merits.

To Professor Soxhlet is due the credit of first sterilizing milk for infant feeding, and to Dr. A. Caillé the credit of introducing the practice to the profession in this country; but the apparatus here shown presents certain advantages over that which is recommended by them.

The cooker consists of (1) a flat shallow boiler, holding but a small amount of water, and therefore requiring but a minimum amount of heat to produce steam; (2) a reservoir, which constantly feeds the boiler and causes steam to be formed continuously; (3) the steam chest or receiving vessel; and (4) a hood, enclosing a space between itself and the receiver, which is constantly sup-

Hood.




A, Boiler. B, Reservoir. D, Steam Chest or Receiver.

plied with escaped steam, a device which causes a temperature once reached to be maintained so long as the heat is unchanged.

Sterilization is accomplished by bringing the object to be sterilized to the temperature of live steam, and maintaining it at that temperature for about forty-five minutes. Boiling for the same length of time, in a vessel the sides of which are exposed to the air, is not efficient, as the temperature in different parts of the vessel is found to vary considerably. This is the main objection to Soxhlet's apparatus, the principle being that of a water-bath. While in the cooker, we have a steam-bath, in which variation of the temperature is prevented.

Numerous tests have shown that with a single Bunsen burner, and ordinary gas pressure, the temperature of 100° C. is reached, in all parts of the receiving vessel, in less than ten minutes. The time required to raise the fluid to be sterilized to the same temperature is found to be directly proportional to its bulk. So that less time is required when the food is in divided quantities. When the temperature of 100° C. is reached, sterilization has commenced, and should be continued for the time specified, forty-five minutes, which time is necessary on account of the great resistance of the spores.

As a sterilizer, the cooker presents these principal advantages: 1, its effectiveness in sterilizing; 2, economy, both of time and fuel; and 3, great convenience, on account of its portability.

The recommendations to any who might use it are as follows:

That the food be prepared as it is to be administered, and that the quantity required for twelve or twenty-four hours' feeding be distributed in eight-ounce flasks or nursing bottles, providing one such bottle for each feeding, so that no unnecessary exposure or transference shall be had. In filling the bottles a funnel should always be used to keep the necks clean, and the fluid should be a full inch below the neck. The bottles should be plugged with cotton, extending well down into the neck, any impurities which this may contain, in the form of moulds or bacteria, being destroyed by the same process which sterilizes the food. The bottles are now placed in the cold receiving-vessel (to prevent breakage) and heat is applied by means of gas, or a kerosene or coal stove. To insure a complete sterilization, heat should be maintained altogether for one and a quarter hour.

Food thus prepared can be kept at ordinary temperatures for an indefinite period, doing away entirely with the use of an ice-pail or refrigerator for keeping the milk sweet.

When the food is to be given the bottle is to be well shaken to mix in the cream, the cotton plug is removed, and the nipple applied to the bottle at once. In cases where it may be necessary to administer food at a higher temperature, the bottle is stood in warm water, as is customary. In regard to the nipples, it is not practical to sterilize them, as heat destroys the rubber, but they can be thoroughly cleansed by the ordinary methods.

[1] Read before the Section on Pediatrics of the New York Academy of Medicine, June, 1889.

# Clinical Department.

## TREATMENT OF DIABETES.

By JOSEPH S. CARREAU, M.D.,

NEW YORK.

DUJARDIN-BEAUMETZ, at a meeting of the Académie de Médicine, March, 1888, praised the happy effects of antipyrine in certain cases of diabetes, especially when the two symptoms, polyuria and nervous irritation, predominated. Henri Huchard, at the Société de Thérapeutique, Feb ruary, 1888, said that he had employed antipyrine in a case of symptomatic polyuria resulting from meningo-myelitis, with good effects. He gave from four to six grammes daily, and the quantity of urine was brought down from thirty-six litres to four. He also reported a case of diabetes, where he noticed, in a few days, the sugar diminish from 735 to 271 grammes a day under the use of antipyrine—two to six grammes daily. He also said that the prolonged administration of antipyrine, in his own experience, has never been followed by albuminuria.

M. Panas reported two cases to the Académie de Médicine, April, 1889, where great relief followed the administration of antipyrine. A man aged thirty-eight, passing forty-nine grammes of sugar in twenty-four hours, by taking two to three grammes daily during six days, had all traces of sugar in his urine removed. A woman, aged seventy-three, by taking three grammes daily, for a few days, also received similar benefit.

The following are some cases in which I employed antipyrine.

CASE I.—Mr. C——, aged sixty-two, diabetes of long standing. From 1885 to 1888 had been under various forms of treatment in different countries; the sugar had been reduced in quantity, but had never entirely disappeared. In March, 1888, he began the treatment by antipyrine, ten grains four times daily, with strict diet, to be continued for three days. On the fourth day no improvement was found; then ten grains were ordered six times in twenty-four hours. At the end of these last three

days, the urine was decreased in quantity, the specific gravity was lower, and the quantity of sugar was less. The pulse being feeble and rapid, the antipyrine was decreased to ten grains three times a day. At the end of six days more the sugar had entirely disappeared, the quantity of the urine had also diminished from nine quarts to two, and all the other symptoms had also improved. The antipyrine was discontinued, and the patient was placed under tonic treatment and strict diet. Since then he has had two more attacks, which were subdued by the same treatment, the first lasting seventeen days, the second only eleven. Since March, 1888, the patient's health has been better, he has gained flesh and strength, and has been able to take some outdoor exercise.

CASE II.—Mrs. A——, aged thirty-eight, a thin and nervous woman, mother of three living children, having had a miscarriage, which occurred ten years previously. She complained of excessive thirst, and passed six quarts of urine in twenty-four hours, specific gravity 1.032 with traces of sugar. She had a chronic pelvic abscess, with fistulous tracts opening into the vagina. She was placed under strict diet, and took from forty to eighty grains of antipyrine daily, during sixteen days, after which the quantity of urine became normal, all traces of sugar had disappeared, and the characteristic symptoms had improved. She was placed under diet and tonic treatment. She has been able to work ever since, supporting her three children by her labor.

CASE III.—Mr. B——, aged forty-eight, had sciatica for ten years; has to urinate every half hour, passing in twenty-four hours from eight to ten quarts of urine, specific gravity 1.030, loaded with sugar. He was ordered fifteen grains antipyrine four times daily for three days. Slight improvement followed. On the fourth day the same dose was ordered six times in twenty-four hours for three days more. At the end of this period the pain had stopped, the quantity of urine was brought down to two quarts, and no sugar was detected by Trommer's test. Antipyrine was discontinued; iron and cod-liver oil with strict diet was ordered. In January, 1889, he had another attack of sciatica and glycosuria, which was subdued in ten days by the above treatment.

## MACERATED FŒTUS AS A COMPLICATION OF LABOR.

BY SARA E. POST, M.D.,

NEW YORK.

THE case was that of a primipara. The date of conception was uncertain, but quickening occurred, I was told, about October 10, 1888. About the middle of January the mother fell, so as to inflict a wound upon the knee, of which the scar still remains. Pregnancy, however, appeared to progress normally until about the middle of February, when I was called in because the movements of the child had apparently ceased. The mother could not say how long previously such movements had last been shown. I was unable to detect life, but found nothing peculiar in the contour of the tumor. As the mother remained well the condition was not interfered with, and labor came on in March, at about the calculated time. There had been some loss of fluid the night previously, but, it being the first child, the young mother could not tell whether it had been more than the escape of urine. The quantity at least was not large. At the time I was summoned, labor was progressing. A membranous bag presented, smooth, its contents plainly fluid. The bag itself, however, had a peculiar feel of leathery thickness unlike that of the amniotic sac. The cervix dilated and this bag came down so as to distend the vagina. Contractions then became feeble and labor was delayed for a number of hours. My first suggestion was that I was dealing with a condition of thickened membranes, as no amniotic fluid whatever had been lost in my presence. Upon this hypothesis I was considering the question of puncture, and had exposed the bag of fluids for the purpose, when I found it muscular or "fleshy" in appearance, causing me to abandon this first view. It then seemed to me more probable that the membranes had ruptured the night previously, and that a monstrosity of some description had presented. Upon this supposition I asked for counsel. On account of this request, or for some other reason, labor recommenced, the mass descended, and within it some loose cranial bones, so that its character became soon apparent, and the labor was completed without difficulty. When born, the fœtus was found of about eight months' development, the skin macerated over the whole body as well as the scalp. The brain was replaced by a reddish liquid of the consistency of pea-soup, in which the bones of the cranium floated. Even the base of the skull was loosely articulated, and the whole head had become the fleshy fluid-containing bag which, on account of the absence of hair and epidermis, I had failed to recognize. There was no odor about the specimen, and the abdominal and thoracic contents were not noticeably softened.

I cannot think that this is a very common complication of labor, as I have mentioned it to several physicians with large obstetric practice who had never met such a case. I relate it particularly for the benefit of other young practitioners, and simply to draw attention to the fact of possible misapprehension connected with it. Had I gone on to rupture the supposed bag of waters the result would not have been nice.

## THE PREPARATION OF CATGUT.

BY JOHN C. SCHAPPS, M.D.,

BROOKLYN, N. Y.

FOR the last four or five months I have been making use of the following simple, and thus far satisfactory, process in preparing catgut. The gut, in as long pieces as can be procured without knots, is placed, with sufficient ether to cover it, in a wide-mouthed, glass-stoppered bottle. What is known as a six-ounce, German XX, saltmouth is an economical size, as the internal diameter just permits the ordinary coil to lie flat. The stopper should, of course, be a very perfect fit. The ether soon becomes discolored and gives off a strong animal odor, and should be changed every day or two until it remains colorless and has no impure scent. The catgut in a few days is nearly white, and has a peculiarly clean feel. The fatty and other soluble organic matter being removed, it is probably now perfectly aseptic. Certainly aqueous germicidal solutions can easily penetrate it. It is, however, my custom to wind each piece upon a glass spool, and keep it in a small bottle containing an ethereal solution of mercuric bichloride, one to one thousand. By means of a needle, the end of the catgut is passed through the cork, which need not be removed until the spool is empty. The tensile strength of the catgut appears in no way affected by this process, though it rapidly loses its stiffness in water.

As yet, with one exception, I have not had a drop of pus in any wound (including those of knee-joint excision and amputation of the breast) in which catgut thus prepared was used. This exception was probably due to imperfect scraping of an old suppurating cavity. It is, however, to be stated that I have not experimented with the thickest kinds of catgut; but if ether will not permeate them it will be hard to find anything that will. The fact that the danger of catgut lies in the fatty matter, in which the microbes are ambushed beyond the reach of watery solutions, has led to the recent movement toward abandoning the use of this material altogether. These points are well expressed in an article by Dr. George R. Fowler, in the December number of the *Annals of Surgery*. But if a more extended experience shows that in ether we have a remedy, catgut is for many reasons to be preferred, as suture or ligature, to silk or linen thread.

I have only recently learned that it has been the custom

at the Methodist Episcopal and St. Mary's Hospitals, in this city, to employ juniper oil as a sterilizing agent, and then to use ether to wash out the excess of oil. But the ether process appears to me to be more direct, simple, and thorough.

486 Bedford Avenue.

## Progress of Medical Science.

The Use and Abuse of Massage.—At a recent meeting of the British Gynecological Society, Dr. Macnaughton Jones gave the Fellows his views on the *rôle* of massage in gynecological practice, and at the following meeting a lively discussion took place which brought out many points of interest and instruction. Although it was by no means the intention of the author to run down a method of treatment which he evidently holds in great esteem, his paper contained certain observations on the subject of the degenerate way in which massage is at present carried out in the hands of the masseurs and masseuses (whose name is legion), and these served as a text upon which the opponents of massage preached a very stirring sermon. Looked at from a disinterested point of view, massage is a practice the value of which is certified by a hoary antiquity, and is doubtless of service in a large class of cases which are more or less obnoxious to other methods of treatment. Nothing, however, that we know of the practice can justify the extraordinary vogue which it at present enjoys, and the high-flown expressions upon which it is sought to build up a pseudo-scientific procedure are little else than a cloak for one's ignorance on the subject. Leaving on one side, for the present, the precise indications for massage and the method in which it should be applied, the great and general ground of complaint is that the method has fallen into unscrupulous and unskilful hands, with detriment to the interests of the patients and to the method itself, which is in serious danger of falling into disrepute in consequence of the doubtful way in which it is carried out at certain institutions and by certain persons. The only indications for massage, according to one of the speakers, is that the patient shall have a thin body and a fat purse, and the whole treatment is more or less a process of "milking!" The application of massage to disease of the internal pelvic organs, as exemplified in "massage of the uterus," came in for severe strictures on all hands. As described by the author of the paper, the performance would seem to bear a singular resemblance to masturbation, and one can understand and sympathize with the reluctance evinced by many medical men to being parties to any such proceeding; more especially as one is aware of the fact that for purposes of treatment, the patient is confided to persons of whose accomplishments and morality we have little or no guarantee. It is possible, as urged by the president, that good results may be obtained thereby, notwithstanding that anatomical considerations would seem to negative the idea of the possibility of any efficient massage of that much-tried organ, but we are certainly justified in asking that the treatment shall only be carried out under the direct superintendence of a medical man, so as to avoid any risk of improper practices. The author of the paper seemed to be much disappointed at having elicited a discussion so foreign to his intentions, but there can be no doubt that it is high time the profession, as a body, took official cognizance of the harm that is being done by indiscriminate employment of this particular method of treatment by persons whose only claim to practise as such is based on a three months' course of lectures by this or that person, who has arrogated unto himself the proud title of professor of the noble art of massage. We are informed that the applications of marauding masseurs and masseuses for employment has come to be a veritable tribulation to men who are credited with being in a position to recommend patients. The only way to put a check upon the degradation complained of would be for the medical societies to discuss the matter, and to bring the pressure of public and professional opinion to bear upon the persons, many of whom belong to the profession, whose conduct conduces to the practices in question. Gynecologists are not more interested than practitioners in other departments in taking the matter up, and, perhaps, now that the ice has been broken, the subject may be considered worthy of attention at the hands of the representatives of the profession who weekly meet and assemble together, as they flatter themselves, for the advancement of medical science. —*The Hospital Gazette.*

The Treatment of Whooping-cough.—Dr. R. Daniel writes to the *British Medical Journal* that in a recent epidemic of whooping-cough he had an opportunity of giving many drugs a trial, and of noting their efficacy. Glycerine of carbolic acid was administered in a large number of cases, but was by no means universally successful in checking the disease. It was most beneficial (1) in children under one year; (2) in uncomplicated cases; (3) where secretion was excessive. It sometimes had a marvellous effect in controlling spasm, and its good was intensified by carbolic vapor or a spray in the sick room. The dose invariably given was ½ minim every three hours to children under one year, that amount being increased to 1½ minim for children of two years, and so on in proportion. In the majority of cases treated he found the best results from a mixture of tincture of belladonna (in full doses), vin. ipecac., and glycerine, given every two or three hours, according to intensity and frequency of the paroxysms. With Dr. Collyns, he preferred to give a dose of potass. bromid. at bedtime, instead of with the day mixture. A hot bath, too, at night, had often a most soothing effect, and formed a very useful adjunct to medicinal treatment. The employment of compresses to the spine during the day also proved beneficial. Diet, regular and nourishing, he found of the greatest importance. Sickness is often exceedingly troublesome, and in such cases a peptonized-milk diet was of great value. Dr. R. Guaita, medical director of the Children's Hospital at Milan, confirms (*British Medical Journal*) the value which has been attributed to antipyrin as a remedy in whooping-cough. During an epidemic at Milan, last summer, he used it in 22 cases, 12 of which were of great severity, with the result that in every instance the disease was completely cured in from four to five weeks. No complication of any kind occurred. The age of the patients varied from five months to nine years, with the exception of one who was over twenty. In all the cases the symptoms subsided or became more marked according as antipyrin was given or withheld. Dr. Guaita thinks that the good effect of the drug is due partly to its inhibitory action on the nervous system, and partly to its antiseptic properties; he calls it the "sovereign remedy, for the present at least, in whooping-cough." He gives twenty-five centigrammes of antipyrin in twenty-five grammes of syrup of orange peel, with an equal quantity of distilled water, in four doses in twenty-four hours, increasing the dose of antipyrin to one or one and a half gramme, according to the indications. If the cough causes vomiting he finds a small quantity of hydrochlorate of cocaine given with the antipyrin most useful.

Improved Method of Amputation of the Penis.—The most unpleasant symptom following amputation of the penis is the funnel-like retraction of the urethra, which causes the patient endless discomfort. Dr. Assaky overcomes this by dissecting the pars spongiosa of the urethra from the penis, for about an inch beyond the superficial incision. Then the corpora cavernosa of the penis are cut through from below, leaving about half an inch of the urethra protruding beyond. The tunica albuginea and the skin are then brought over the stump of the pars cavernosa and stitched around the protruding urethra. This will retract to some extent, leaving a very natural looking meatus.—*Centralblatt für Chirurgie.*

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## THE NORMAL POSTURE IN LABOR.

THE observations and records of travellers, ethnologists, and physicians show that women of various races, during labor, assume very different postures. The precise posture seems to be determined partly by instinct, but largely, in many cases, by custom. Instinct, among civilized races, does not seem to be a very certain guide, if one may trust the reports of Schütz and Von Baren. These physicians took a young, healthy woman, pregnant for the first time, quite ignorant of the process of labor, and totally uninstructed as to what she should do during its continuance. Such a woman was placed entirely alone in a room containing chairs, stools, sofas, cushions, beds, etc., with every opportunity to use any, all, or none of them, as she might desire, and to assume any position or positions she might wish. On being watched, it was observed that she behaved, in each of the experiments, exactly as a man or any other person would do when suffering from a severe attack of colic. Finding no relief in one position, she would get into another, and so on; continually changing her posture, simply following the instinct of seeking relief from pain. Of 50 such experiments recorded by Schütz, "32 (over half) occupied abnormal positions; 14 standing, 16 crouching or squatting, 2 kneeling.' Of 100 other such cases, cited by Dr. Cohen v. Baeren, of Posen, 50 "occurred in unusual positions: 30 standing, 18 crouching or squatting, and 2 kneeling" ("Transactions American Gynecological Society," 1880, p. 176). In one such experiment by Naegele, "the girl took all possible positions, and was finally delivered tossing about on the bed."

Some years ago Dr. Engelmann, as the result of his studies as to the normal posture in labor, concluded that:

1. In the ordinary labor case, which is a purely mechanical process, the patient should be given greater liberty and should be permitted to follow the dictates of her instinct in regard to her movements, more freely than is now customary.

2. In the earlier stages of labor the parturient must be guided in her actions and in the position assumed by her own comfort and by the dictates of her instinct.

3. The recumbent position retards labor and is inimical to easy, safe, and rapid delivery.

4. In ordinary labor cases the expulsion of the child should be expected in an inclined position: kneeling, squatting, or recumbent, in bed, on the chair, or lap, as is done by the great majority of uncivilized people.

5. Of these positions, the semi-recumbent is the most serviceable, and should be adopted as the obstetric position in all ordinary labor cases; it is preferable to the kneeling or squatting.

Many years ago American physicians were taught to deliver the woman while lying on the left side; but for a long time this practice has been given up, and the rule generally is now to allow the labor to occur with the woman lying on the back.

Recently there has been considerable said again in favor of the left-side posture. Dr. A. F. A. King, of Washington, has discussed the subject exhaustively in the *American Journal of Obstetrics*, No. 4, 1889.

Dr. King is convinced that there is no one posture which is best, and that a change in position to meet various indications is the most important element. He cites the case of a woman who, in obedience to her physician, and contrary to her own expressed, instinctive wish, was kept in bed during labor for *sixty hours;* at the end of this prolonged dole of agony, no progress being apparent, her request was acceded to; she was allowed to sit up, and immediate delivery followed. It may be added that this woman was sixty years of age, and had previously given birth to seventeen children! In three other cases, when it was thought necessary to apply forceps, a similar change of posture secured rapid delivery without difficulty, and without instrumental aid.

The exact changes and final position of the woman should be determined by the obstetrician after a careful examination of the case. He concludes:

1. There is no *one* posture that can be normal for the parturient woman.

2. The continued maintenance of one posture wastes and exhausts the forces of labor, interferes with the normal mechanism, and adds to the duration and intensity of the woman's suffering.

3. Exactly opposite results are produced by proper changes of posture.

4. The indications for change are: Instinctive desire for it; arrest of the mechanism of labor; emotional discontent, peevishness, and despair.

5. The normal mechanism of labor being at present imperfectly understood, and the influence of different postures upon this mechanism, during the several stages of the several "positions" of the several "presentations" being unknown, the selection of given postures for given conditions cannot be defined without further study.

We must be permitted to conclude that some of these conclusions, if true, reflect little credit upon the modern obstetric art. If "the normal mechanism of labor is still imperfectly understood," it argues extraordinary dulness on the part of physicians who have been delivering babies since medical science began. Furthermore, as over ninety per cent. of labors are normal and take place in almost precisely the same way, it seems as though obstetricians should be able to tell the woman what would, with the greatest probability, be the proper position for her to adopt. Professor King, it seems, would leave the unhappy parturient uncertain whether she should squat like a Kaffir, hang from a rope like an Apache, kneel like a Mexican, hang to a pole like a Blackfoot squaw, stand like the Ceramites and ladies of the Nile, lie on the stomach like the Creeks, on the side like the English, or

on the back like the American. It seems but fair that modern obstetrics should give parturient ladies less postural latitude than is implied in Dr. King's conclusions, which, we take it, are held to apply to the second stage of labor.

### "HALF-FILLED HOSPITALS."

SOME correspondence has recently taken place in one of the leading daily papers relative to hospital management. It began with an editorial with the caption of this article, and was followed by a letter from the general agent of the Hospital Saturday and Sunday Association. The charge made in the editorial was, in general, that there are in Brooklyn and New York many empty hospital-beds, while the sick poor are suffering from lack of hospital-care; that the managers of these institutions do not admit these proper objects of their charity, because either of their inability to pay or the disagreeable nature of their illness. The charge is still further particularized in being applied to the hospitals directly under the charge of the different religious denominations.

We cannot but believe that the writer is misinformed as to the true facts in the case. He may, as many do, make the mistake of not recognizing the distinction between a hospital for acute diseases and a home for convalescents, or for chronic maladies. Application is often made for the admission to hospital of a chronic case which has worn out a family at home, and disappointment is felt that the patient is refused admittance. Such refusal is justly based upon two reasons. In the first place, it is the obvious duty of any charitable agency to labor in that field where it can do the most good. The filling of the beds with such cases, generally susceptible of but slight improvement, prevents the reception of cases of acute illness or severe accident where a little timely aid may save a life. In the second place, a hospital is not, for therapeutic reasons, the place for such chronic cases to be treated. They need cheerful surroundings, and the avoidance of all depressing scenes. In a hospital these conditions cannot obtain, particularly in the larger ones, with an ambulance service where maimed and bleeding cases are being brought in at all hours of the day and night, and where deaths are constantly occurring.

It is greatly to the credit of our so-called denominational hospitals that religious belief is not made a test of entrance. You will find Jews in St. Francis Hospital, Catholics in St. Luke's, and Protestants at Mount Sinai, and, as far as we have observed, all are treated equally well.

The story related in the daily journal above alluded to is an exceptional case. It is, briefly, that a woman recently confined applied to an institution in Boston. She was refused admission because "they didn't take that class of cases," and finally was found dead on the docks with the corpse of the baby under her ragged shawl. This is, of course, a most deplorable case, but a wholesale indictment should not be based on it. It must be admitted that in this instance "some one had blundered." We venture to say that that thing would not have happened at any of our institutions in connection with the ambulance service. It is evident that an institution founded for the carrying on of certain lines of medical and surgical work cannot alter its scope at every application for admission. But what could be done, and what, we are happy to believe, is done here in New York, is to take charge of every applicant who comes in a condition of acute physical suffering. If the case is a proper one, it is kept. If this cannot, for any reason, be done, it is transferred to some city institution where it can be properly cared for. It is not told merely to "move on."

Relative to the charge that "there are a few well-endowed and amply maintained institutions that expend a large share of their revenues in keeping up appearances and are not doing the work which their open-handed patrons have placed it within their power to do," we can say nothing in the absence of more definite particulars. We can believe this possible, but do not think it probable. Anyone who knows much about our local institutions knows that the great annual problem is to make buckle and strap meet over the necessary expenditures, let alone keeping up useless appearances. The low current rates of interest have greatly lessened the sustaining power of endowment funds. To anticipate a remedy for the alleged state of affairs, we would recommend, as we have so often done, that medical men should be admitted to the hospital managing boards. We believe that material resources could be greatly conserved thereby, by a wiser and more discriminating expenditure.

### THE DEFICIENCIES OF OUR VITAL STATISTICS.

THE report of a special committee, composed of Drs. J. G. Truax, J. R. MacGregor, and Alfred L. Carroll, to the New York County Medical Association, discloses a fact which has long been known with regard to the deficiencies in our system of obtaining vital statistics, viz., that the birth-returns are very deficient.

The State law puts upon the parents or custodians of children the duty of reporting births, except only in five specified cities, of which New York and Brooklyn are two. In these cities the responsibility is put upon the physicians and the few registered midwives. The result is that, where no physician is called in at a birth, and no responsible midwife, the chances are that the birth will not be registered.

As a remedy, the committee recommend that the law be made uniform for all the cities, and that the responsibility of notification be placed on parents or custodians.

We should welcome any change which takes away an unwarranted responsibility imposed upon physicians; but it is not easy to see how the change would increase the accuracy of the returns.

### THE NOTIFICATION OF PHTHISIS PULMONALIS AS A CONTAGIOUS DISEASE.

THE Health Department of this city is studying with much care the problem of the prevention of phthisis through destruction of its infecting agent, the bacillus. It is, in particular, directing its efforts to the more crowded portions of the city, where the danger of infection is greatest. The exact mode of attack upon the bacillus has not, we believe, been fully decided upon, although some preliminary steps have been taken. The most serious question which has arisen, we take it, is as to the advisability of classing tuberculosis with the contagious diseases that are now reported to the Health Department, and requiring

that it be similarly reported. The advantages of this step would be that it would educate both physician and public to the view that phthisis is infectious, and would impress upon both the fact of the necessity of using disinfection in connection with its treatment.

On the other hand, it might needlessly alarm the public and perhaps add, unnecessarily, to the discomfort and suffering of the patients. We doubt very much, also, if the medical profession would co-operate heartily in notification, except as regards hospital and dispensary patients.

Despite some disadvantages, however, we believe that a trial at least of the notification plan might be made. In promulgating and practically enforcing the view that pulmonary phthisis is a contagious disease, however, most careful and explicit statements should be made as to what is meant by this contagiousness. It should be shown that the disease is not contagious in the popular sense at all, *i.e.*, communicated by contact, or the breath, but only by the medium of the sputum; also, that unlike syphilis and other infectious diseases, it cannot be communicated under any ordinary conditions, except to those who are predisposed by various constitutional and depressing agencies to its development.

## News of the Week.

Sir Morell Mackenzie.—A most elaborate banquet was given Sir Morell Mackenzie last week. Lord Randolph Churchill presided and many distinguished men were present.

A Banquet to Dr. Traill Green was tendered at Easton, on June 20th, by the County Medical Society. A large number of Easton physicians were present, as well as several gentlemen from Philadelphia. Dr. Green was born in 1813, and has practised medicine since 1836—fifty-three years.

Accident from the Electric Current.—A man living in St. Paul, Minn., accidentally received a severe shock of electricity which knocked him senseless for forty-eight hours. He has recovered, and says that the sensation on receiving the current was not painful.

Suicide of a Physician.—Dr. Waters, an aged physician of this city, recently committed suicide because, it is said, he was unable to get sufficient practice to support himself.

The Death of Dr. C. B. Radcliffe, of London, recently took place, in the sixty-seventh year of his age. Dr. Radcliffe was an original and voluminous contributor to physiological and pathological subjects.

Lactose as a Diuretic. — Professor Germain Sée asserts that lactose is a powerful diuretic and is the active diuretic principle in milk. It acts with certainty in cardiac dropsies and is the diuretic in such conditions. It does not relieve the cardiac dyspnœa, for which potassium iodide is needed. One hundred grammes a day may be given. *À propos* of this, we may cite a paragraph in the *Boston Medical and Surgical Journal* to the effect that milk-producers in New York State think they see a small measure of promised relief from the present depression of prices due to over-supply, in the development of the sugar-of-milk (*saccharum lactis*) manufacturing industry. Formerly consumers of the article in this country have depended entirely upon importations from Switzerland and Bavaria, and it is only lately, and in view of the increasing demand, that an attempt has been made to supply the market with a home-made product.

Dr. Stephen Wickes, of Orange, N. J., died on July 8th, aged seventy-six. Dr. Wickes was a man of fine education and unusual literary attainments. He edited the "Transactions of the Medical Society of New Jersey" from 1860 until 1882; also the old transactions of the Society from 1766 till 1858. He published "Topography of Orange," "Water Cure in Orange," "Memoirs of Thomas W. Blatchford, M.D.," of Troy; a memorial volume of the First Presbyterian Church, with which he was so long connected; "Living and Dying, their Physics and Psychics," "History of Medicine in New Jersey," "Sepulture: Its History, Methods, and Requisites," and "History of the Newark Mountains."

A Remarkable Epidemic of Pneumonia.—In the *Maritime Medical News* for May there is an account of an epidemic of pneumonia in Prince Edward Island. During the months of February and March no less than five hundred and forty-six cases occurred in the practice of twenty-six practitioners, and at the date of the report the disease was still very prevalent. As there are over fifty practitioners in the island, it is computed that the total number of cases is fully upward of one thousand. As the population of the island does not exceed one hundred and fifty thousand, the number attacked is relatively very great. It appears that in the majority of cases the pneumonia was attended by acute bronchial catarrh. The catarrhal complications, which in some cases also involved the larynx and middle ear, were more frequent in children and the aged. In the five hundred and forty-six cases reported there were only forty deaths, a decidedly low mortality.

Medical and Surgical Work at Roosevelt Hospital.—The annual report for 1888 contains some interesting medical and surgical statistics and is a great improvement on the average hospital reports. We learn that there were 56 cases of typhoid fever treated in the hospital, with seventeen and one-half per cent. of deaths; also 56 cases of lobar pneumonia, with 24 deaths, or forty-three per cent. We note the record of 5 laparotomies, 4 exploratory, with 4 deaths—not a very brilliant showing. There were 3 operations for typhlitis, with 2 deaths. On the other hand, there are 27 operations recorded for laparotomy for diseases of the reproductive organs, besides 4 vaginal hysterectomies, with but 4 deaths.

Professor T. G. Richardson has resigned from the faculty of Tulane University on account of ill-health. He has had an exceptionally long term of service—thirty-one years—fourteen years in the chair of anatomy and seventeen in that of surgery. In Germany, Professor Richardson would be given a jubilee.

Dr. R. J. Hall has resigned the Professorship of Anatomy in the College of Physicians and Surgeons on account of ill-health. This leaves two of our colleges without professors of anatomy.

A German Anthropological Congress will be held in Vienna, August 5th to 10th.

North Carolina Insane Asylum.—The daily papers contain reports of the trial of Dr. Grissam, for many years superintendent of the North Carolina Insane Asylum, on charges of cruelty and immorality. We trust that Dr. Grissam, who has long sustained an excellent reputation, will acquit himself of the painful accusations made against him.

A Recent Decision of the Surrogate has been made to the effect that, as a matter of law, the indulgence in the opium-habit, even though to excess, cannot be considered sufficient to establish want of testamentary capacity.

The Students of the Ambulance Corps of the New Orleans Charity Hospital have made their appearance in uniform. The outfit consists of a navy-blue suit, square-cut sack-coat with brass buttons, and a white cap.

They Want Clinical Facilities.—At a meeting of the students of the Medical School of Maine, held in Brunswick, June 24th, the following resolutions were formally adopted by the students:

*Whereas*, We, the students of the Medical School of Maine, unanimously believe that the benefits of the school are marred by the lack of clinical advantages, and for this reason many of the students are accustomed to leave the school at the end of the first or second year to finish their course in schools possessing greater clinical facilities; and

*Whereas*, The city of Portland presents by far the best advantages of any locality in the State, both clinical and in other respects;

*Resolved*, That we unanimously second the resolutions relative to the removal of the Maine Medical School adopted by the Maine Medical Association at their last session.

The students at Ann Arbor might read these resolutions with profit.

It may Lead to an Intestine War.—The daily papers announce that the latest trust that is forming in the West is the Castor-oil Trust. It appears that manufacturers are ready to take the final step and organize a trust combination with a capital stock of $250,000 to $500,000. The Castor-oil Trust will be an immensely profitable one. The price of the seed has been about $1.50 a bushel for years, while the price of the oil has been over 15 cents and as high as 16 cents, and not lower than 12 cents a pound. On the basis of 15 cents the crushers have a profit of 4 cents a pound, with a yield of sixteen pounds to a bushel of seed. There are but seven regular mills in the country. The medical profession has had a trust in castor-oil for many years, in doses of from one to four drachms.

Preventing Consumption.—The New York City Board of Health has issued the following rules to be observed for the prevention of the spread of consumption: Pulmonary tuberculosis (consumption) is directly communicated from one person to another. The germ of the disease exists in the expectoration of persons afflicted with it. The following extract from the report of the pathologists of the Health Department explains the means by which the disease may be transmitted: "Tuberculosis is commonly produced in the lungs (which are the organs most frequently affected) by breathing air in which living germs are suspended as dust. The material which is coughed up, sometimes in large quantities, by persons suffering from consumption contains these germs often in enormous numbers . . . This material when expectorated frequently lodges in places where it dries, as on the street, floors, carpets, handkerchiefs, etc. After drying in one way or another, it is very apt to become pulverized and float in the air as dust." By observing the following rules the danger of catching the disease will be reduced to a minimum: 1, Do not permit persons suspected to have consumption to spit on the floor or on cloths unless the latter be immediately burned. The spittle of persons suspected to have consumption should be caught in earthen or glass dishes containing the following solution: Corrosive sublimate, 1 part; water, 1,000 parts. 2. Do not sleep in a room occupied by a person suspected of having consumption. The living-rooms of a consumptive patient should have as little furniture as practicable. Hangings should be especially avoided. The use of carpets, rugs, etc., ought always to be avoided. 3. Do not fail to wash thoroughly the eating utensils of a person suspected of having consumption as soon after eating as possible, using boiling water for the purpose. 4. Do not mingle the unwashed clothing of consumptive patients with similar clothing of other persons. 5. Do not fail to catch the bowel-discharges of consumptive patients, with diarrhœa, in a vessel containing corrosive sublimate, 1 part; water, 1,000 parts. 6. Do not fail to consult the family physician regarding the social relations of persons suffering from suspected consumption. 7. Do not permit mothers suspected of having consumption to nurse their offspring. 8. Household pets (animals or birds) are quite susceptible to tuberculosis; therefore, do not expose them to persons afflicted with consumption; also do not keep, but destroy at once, all household pets suspected of having consumption, otherwise they may give it to human beings. 9. Do not fail to thoroughly cleanse the floors, walls, and ceilings of the living- and sleeping-rooms of persons suffering from consumption at least once in two weeks. Ten thousand copies of the report were ordered to be printed for distribution.

A Resolution has been adopted by the Board of Health, directing the Register of Vital Statistics to make a daily report of all deaths which occur in tenement-houses from tubercular meningitis and pulmonary and intestinal tuberculosis, which are to be sent to Dr. Cyrus Edson for investigation.

A Septic Suppuration has recently been produced by Dr. Kaufmann, working in Schmiedeberg's laboratory, through the subcutaneous injection of a sterilized solution of digitotoxin in absolute alcohol with ten per cent. of carbolic acid.

A Healthful Costume.—According to the *Business Woman's Journal*, the present style of the Directoire suit is probably the most hygienic dress that has ever been worn by woman. The absence of full drapery and the plain skirts prevent it from encumbering the limbs, and relieve it from the unnecessary weight which has been so serious an objection to the old styles.

The Plumber.—The *Sanitary News* is at pains to deny that there is no good plumber but a dead one; it offers arguments of considerable weight in support of its view.

# Society Reports.

## American Medical Association.

FORTIETH ANNUAL MEETING,

*Held at Newport, R. I., June 25, 26, 27, 28, 1889.*

(Continued from page 26.)

SECTION ON PRACTICE OF MEDICINE, MATERIA MEDICA, AND PHYSIOLOGY.

THIRD DAY, THURSDAY, JUNE 27TH.

DR. VICTOR C. VAUGHAN, of Ann Arbor, Mich., read a paper entitled

THE ETIOLOGY AND PATHOLOGY OF TYPHOID FEVER.

The germ is found practically in every case of typhoid fever. Indeed, it is so invariably found that one is often suspicious, for this germ of Eberth has been reported found in almost all the organs, including the brain, lungs, and the blood. It has been found, by numerous writers, in drinking-water. Pure cultures of it may be found in all our laboratories. Goffky was the first to inoculate animals with these cultures, the inoculation being made into the blood or the peritoneal cavity. Many of these died of tuberculosis. In successful inoculations, the animals died in from a few hours to four to six days. Many of the glands were enlarged, the micro-organism was found in the liver, spleen, and blood, but not at the point of inoculation. This was supposed to be true typhoid. Some found that the effect on the animal was in direct proportion to the amount injected, and other organisms produced the same result, showing that death occurred from intoxication, and that it was not specific. Thus it was shown that death was not caused by the Eberth germ.

Eberth's germ, found in the body, has been isolated and cultivated outside of the body, does not grow in the body, and soon dies. Experiments on man might produce different results. The chemical products produced by this germ must be considered also. Typhoid fever is probably due to a mixed infection, as experiments made with impure cultures help to show. Feeding on typhoid stools produces symptoms and signs much like typhoid fever. Rabbits fed with drinking-water known to cause typhoid fever, gave many symptoms of typhoid fever, and death resulted in from two to eight weeks. Vaughan found in drinking-water known to cause typhoid fever, at Iowa City, germs exactly like Eberth's germ in morphology and behavior. Dogs inoculated with this water showed, after several weeks, evident signs of typhoid fever, as shown in the autopsy. One of these dogs died, and the others became emaciated, and they showed rise of temperature. Soon after, the second dog died, and showed same signs as in the first dog. Vaughan had lately turned his attention to studying the ptomaïnes in the typhoid stools of patients. The stools were received in sterilized vessels directly from the patients, and were studied with all possible caution. He had obtained certain crystals, a solution of which, injected into the abdomen of a dog, elevated the temperature, caused purging and straining. All these symptoms give a hope that these ptomaïnes are the ones always present in typhoid. When the cultures were kept at 40° C. (104° F.) the ptomaïnes were then most abundant. It is not feasible yet to give a name to this substance.

DR. WELCH, of Baltimore, said that

HE MUST PROTEST AGAINST ACCEPTING ONE CONDITION

which Dr. Vaughan formulated, viz., that before we admit that a given micro-organism is the cause of a disease we must isolate from cultures of this organism chemical products which are capable, by inoculation or feeding, of producing the symptoms of this disease. It is certainly an important addition to our knowledge of a disease to become acquainted with such chemical products, but this is not essential to a belief in the causative agency of a specific micro-organism. If Dr. Vaughan's condition be accepted as an essential link in the chain of proof, then we have not sufficient evidence that many recognized infectious organisms, such as the spirillum of relapsing fever, the bacillus of leprosy, or even the tubercle bacillus, are the causes of their respective diseases. From our present knowledge we are justified in believing that a micro-organism which is invariably associated with a disease, which is always found in the lesions of the disease, and in situations which explain the lesions and symptoms, and which is never found except in association with the disease, must be regarded as the cause of the disease. Where, in addition to this, we are able, by experiments on animals, to reproduce the disease by inoculation or ingestion of pure cultures, this additional proof is most welcome, but in many infectious diseases we cannot furnish this last method of proof, either because we have not been able to isolate and cultivate the suspected organism, as is the case with relapsing fever, or because animals available for experiments are not susceptible to the disease, as seems to be true of typhoid fever and cholera. For this reason we may agree with Koch, that it is not absolutely necessary that we reproduce the disease experimentally in animals by inoculation before we admit that a given organism, found invariably associated with the disease under the conditions stated, is the specific cause of the disease. The evidence Dr. Welch believed to be conclusive that the typhoid bacillus is the specific cause of typhoid fever.

Dr. Vaughan's emphasis of the necessity of demonstrating the chemical products of pathogenic micro-organisms before we accept their etiological significance he perhaps bases upon the assumption that infectious organisms produce their disastrous effects solely by their chemical products; but this assumption is unwarrantable. In fact, there is reason to believe that, while some pathogenic micro-organisms act by their chemical products, others do not so act.

As Dr. Vaughan himself is doubtful as to the interpretation of his experiments on dogs, Dr. Welch was not inclined to attribute to them, without further experiments, any bearing upon the etiology of typhoid fever.

Dr. Vaughan is to be congratulated, said Dr. Welch, upon the isolation from typhoid stools of a definite crystalline substance with such interesting properties, but, as Dr. Vaughan himself has stated, it will be necessary to make control chemical observations with diarrhœal or other stools not derived from typhoid patients before the relation of this substance to typhoid fever becomes clear.

DR. JAMES TYSON, of Philadelphia, thought the organism should be found in the diseased animal, should produce the disease in a second animal, and it should be found in the second animal. This seemed to be proof enough that the organism is found irrespective of the disease and location of the lesions.

DR. T. C. WILSON, of Philadelphia, inferred from Dr. Vaughan's remarks that he was using this knowledge of the presence of ptomaïnes as a beginning simply, and was working out from this point. The clinician and the bacteriologist have not done all; there are waste places, and here the chemist, and especially the bacteriological chemist, could help us and had helped, and we should welcome the help they offered.

DR. W. J. SCOTT, of Cleveland, did not think we should expect to find the organism in the second animal poisoned by the ptomaïnes of the first. How could we expect to get bacilli from ptomaïnes?

DR. VAUGHAN, in conclusion, said that in a recent talk with Koch, the latter said he did not think the Eberth bacillus was the cause of typhoid fever, and he gave Koch's four rules, and when these rules had been complied with there could be no doubt of that disease. Dr. Welch asked us to give up every rule except the first. He did not mean to say that every disease produced its deleterious effects by its ptomaïnes, but it had been

proved in the case of many diseases; and of these diseases Asiatic cholera is the best example.

Dr. J. C. Wilson, of Philadelphia, then read a paper entitled

PROPHYLAXIS OF TUBERCULOSIS.

He began by saying that pulmonary consumption was hereditary, contagious, and preventable. So many diseases whose history is familiar to us pass from parent to child, some appearing early, some later, but all showing a clear hereditary history. Tuberculous diseases do not correspond to the acute infectious diseases whose history we know. Tuberculosis in general seems to pass not through the blood, but by local contagion from parent to offspring. We should not, and do not, speak of a tubercular diathesis any more than we speak of a typhoid or of a variolous diathesis. Tuberculosis may be caused by the flesh of animals. The careless manner in which the sputum is deposited in handkerchiefs, open cups, etc., tends to spread the disease. Animals which feed on tuberculous flesh contract the disease. Cornet found the bacilli in the scrapings of walls, etc., of rooms, hospitals, etc. He concluded that the dried bacilli were drawn into the lungs and thus caused the disease. Milk from cows with tuberculous teats may give the disease to infants Flick, of Philadelphia, showed that tuberculosis spread by neighborhood, contact, etc. The mortality is high in prisons, cloisters, etc., and the disease attacks by preference those who attend the consumptive. Monkeys, when confined in menageries, die by tuberculosis. As tuberculosis is not hereditary in the strict sense of the term, prevention is not so hopeless. The avenues of infection are by the respiratory and digestive tracts. Rigid inspection of food—animals' milk, diseased and impure —would do much good. The nature of the disease should be communicated to the patient and his friends as early as possible.

Dr. C. G. Stockton, of Buffalo, did not altogether believe in a tubercular diathesis.

Dr. Solly, of Colorado, in his practice saw all varieties of the disease, and thought it was hard to say what amount of lesion was sufficient to cause the disease.

Dr. Herrick, of Cleveland, was very sceptical on this subject. The tests of microscopy and therapeutics are wanting to support this theory.

Dr. S. Solis-Cohen, of Philadelphia, thought it was natural to be sceptical. It was almost like a repetition of ancient belief in certain old theories. It was not always certain which was first, the disease or the organism. We must draw the line between phthisis and tuberculosis.

Dr. Cutter, of New York, believed that consumption was curable, and we should not take away hope from the patient.

Dr. Whitney, of Pawtucket, thought that the germ theory had worked more harm than good.

Dr. J. C. Wilson, in conclusion, said the development of a single case proved nothing. The fact that some points still remain unsolved should not make us exclude what is known.

Dr. M. R. Crane, of Rutland, Vt., then read a paper entitled

TOXIC AGENTS IN THE BLOOD AS A CAUSE OF DISEASES OF THE NERVOUS SYSTEM,

in which was reviewed our knowledge of ptomaïnes, and leucomaïnes, and the diseases produced by these toxic agents, such as neuritis, neuralgia, diseases of the spine, cerebral disorders, tubercular meningitis, convulsions, neurasthenia, etc.

Dr. W. L. Schenck, of Kansas City, then read a paper entitled

SOME THOUGHTS ON THE ETIOLOGY, PATHOLOGY, AND THERAPEUTICS OF PHTHISIS PULMONALIS,

the substance of which was a plea for the use of fat, the absence of which in the diet seemed to increase the mortality in a people, as evidenced in the inhabitants of the warmest and coldest climates.

Dr. Solomon Solis-Cohen, of Philadelphia, read a paper on

FOOD IN THE TREATMENT OF PULMONARY CONSUMPTION.

Though the paper was in its scope therapeutic, yet as therapeusis must be founded on sound pathology, it was necessary, the author said, to state that the morbid physiology of the disease, and not its bacteriology, is considered the fundamental indication. In deference to prevailing views, tuberculosis may for the present be granted to be the history of the growth, life, and activity of a bacillus. But for rational treatment we must revert to the views of Niemeyer, who said that the danger of phthisis is tuberculosis; or to those of Rush, who declared that tubercle and other anatomical lesions were "the effect, not the cause, of pulmonary consumption;" and recognize the disease we have to combat not in epiphenomena of possible microbic origin, but in the consumption, the aberration of nutrition, which precedes the entrance of the microbe. Consumption is a disease of nutrition whose exact mechanism is as yet unknown, though the results of prolonged observation justify us in considering heredity, unhygienic surroundings, and, in general, those influences called "depressing," as among its remote or proximate causes; the pulmonary form being further dependent upon errors in respiration, whether of the substances respired or of the performance of the act.

Thus we dismiss as futile microbicidal treatment, and recognize ptomaïnes of bacillary origin only as giving rise to intercurrent symptoms which may call for antidotal or symptomatic treatment. Fixing attention upon the malnutrition, which is not a mere "predisposition" to succumb to a bacillus, but the essence of the whole morbid process, we combat it by direct measures, hygienic and medicinal, the latter secondary, the former all-important. Chief among hygienic measures is food. Food consists not alone of meat and drink, but also of air. Full respiratory diet is necessary to the utilization of alimentary diet. As in diabetes, so in phthisis, there is imperfect metabolism of carbohydrates. Experience shows a nitrogenous dietary to be best. Debove has shown that consumptives can assimilate a quantity of food far in excess of the needs of the healthy organism. This excessive quantity should be supplied; though resort to the stomach-tube, as in Debove's experiments, can be reserved for special cases.

Meat, principally beef, with milk, fish, eggs, leguminous vegetables and greens, should form the bulk of the dietary; with the addition of fat, in large quantities, in the form of cream, butter, oil-dressing for salads, or, if necessary, cod-liver oil or oleaginous inunctions. Alcohol is a food in consumption. It should be combined with malt, milk, glycerine, or cod-liver oil. Not more than three, at most four, hours, except during sleep, should be allowed to elapse without taking food. Milk punch on going to bed, and a glass of wine or spirits with liquid peptonoids in case of waking during the night, are strongly urged. Hot water before meals, lavage if necessary, to prepare the alimentary tract for the digestion and absorption of increased food, and the free drinking of water to wash out waste products, are essential to success. Predigested foods may be employed with great benefit, especially peptonized milk and beef peptonoids. In case gavage is resorted to, they should be used almost exclusively. Gavage is best preceded by lavage with an alkaline solution and chloroform water. Proper alimentary diet being secured through over-feeding, and the digestive tract and its adnexa being kept in good condition, proper respiratory diet must be supplied. Open-air life, exercise on horseback, or bicycle, voluntary respiratory gymnastics, may suffice when the patient is still strong enough. In the majority of cases, there must be some artificial aid. The inhalation of compressed air, with or without expiration into rarefied air, is the best means. Apparatus should be sim-

ple and cheap, so that the patient can use it at home. The principles laid down by Waldenburg are the correct ones. Cohen's apparatus consists of a bellows and a small gasometer modelled upon Waldenburg's. Its advantages are cheapness, simplicity, and small size, fitting it for home use. After patients are sufficiently advanced toward recovery, the pneumatic resistance valves of the author, a still more convenient and very cheap pocket-apparatus (costing about five dollars) may be used. It may be used in the first instance with strong patients. It is also useful as a prophylactic measure with ill-developed children. It gives the effects of breathing against pressure, *i.e.*, into compressed air, or out of rarefied air.

The effects of pneumatic measures are to increase the volume of respired air, open up unused air-cells, facilitate expulsion of pathological products, increase gaseous exchange, facilitate absorption of oxygen by the hæmoglobin, while at the same time the volume of blood and the activity of circulation in the lungs is increased, bringing more corpuscles into contact with the increased volume of oxygen. Penetration of blood into the tissues, tissue respiration, and production of lymph are also increased. Thus local and general nutrition are powerfully stimulated, and an improved respiratory habit and increased respiratory and circulatory power are gained. The products of digestion are properly oxidized and utilized, immature tissue is destroyed and expelled. The promotion of sleep is one of the most marked effects.

The physician thus, by altering his patients' environment in the manner described, puts them into a condition where natural powers complete the cure, and bacilli need not be feared. Illustrative cases were cited, and the conclusion reached that the proper treatment of consumption is not microbicide, but nutrition.

Dr. T. A. Cutter then read a paper entitled

TROPHOPATHY IN THE FATTY AND FIBROID DEGENERATIONS,

which dealt with the treatment of certain cases of serious kidney trouble.

## SECTION ON PRACTICE.

### Fourth Day, Friday, June 28th.

Dr. J. G. Truax, of New York, read a paper on

ULCERATIVE ENDOCARDITIS,

in which he reported six cases, drawing attention to certain points. The symptoms were not pathognomonic, the heart-sounds were often found normal on auscultation, the temperature never rose above 104° F.; the infection is undoubtedly due to some germ.

Dr. Mary E. Baldwin, of Newport, read a paper entitled

STOMACH REST AND CLEANLINESS,

in which was related a case treated by proper diet, stomach washing, stomach rest by enemata, change of scene and air, and the results were successful. The constipation which was so obstinate has been entirely removed, and the bowels were regular. The abuse of the stomach during infancy and childhood is undoubtedly an important causative factor in such cases.

Dr. W. S. Watson, of Matteawan, N. Y., then read a paper on

ADDISON'S DISEASE,

with exhibition of a specimen. After enumerating the symptoms and history of the ordinary type of this disease, the writer spoke of the experiments made in incision of the supra-renal capsules. These glands contain a large number of vessels and nerves, indeed, larger in proportion to their size than any other gland in the body. In a case terminating fatally he had found at the autopsy heart, lungs, normal; the supra-capsules normal in size, but much changed and inflamed on microscopic examination. In reply to the Chairman, Dr. F. B. Shattuck, Dr. Watson said there was no increased pigment on the mucous membrane of the mouth.

## SECTION ON OBSTETRICS AND DISEASES OF WOMEN.

### Third Day, Thursday, June 27th.

Dr. William H. Taylor, of Cincinnati, related a case in which

PREGNANCY OCCURRED AS A COMPLICATION OF OVARIAN TUMOR.

He was called to see a woman who expected to be delivered in January. She was not delivered in that month. In February she met with an accident, being thrown from her carriage, and he was allowed an examination. He told her that she was not pregnant, but that she had a tumor, and recommended treatment for it. She insisted she was pregnant, and would permit no treatment. Eighteen months after he was first called to deliver her she passed a blighted ovum. He was criticised very much by the patient and her friends, but he told them that he laughs best who laughs last, for he had re-examined her and found the tumor still distinctly present. The woman went on growing, and, being very short in stature, she became greater in circumference than height. She finally died. The doctor was sure that the pregnancy occurred after he was called to attend her.

Dr. A. Van Der Veer, of Albany, N. Y., was of the opinion that the complication of ovarian tumor with pregnancy would grow less and less common as our ability to diagnose improved, but with fibroid tumors it would not be so. Nothing so lowers us in the confidence of our patients and their friends as the operating on a pregnant uterus. He called attention to the fact that Peaslee had a case of tetanus after ovariotomy which he thought due to the use of a clamp, and he always argued against the use of a clamp thereafter.

Dr. Kimbel, of Lowell, Mass., reported four cases of tetanus following ovariotomy which occurred in his practice. His experience with tetanus following ovariotomy had been extremely unfortunate. A peculiarity of his case was that the tetanus had not come on till the twelfth day in one case. The patient grew worse and died. He has had three cases since, two of which died. The fourth case recovered. He did not know that any treatment had any particular power over this disease, but thought more reliance could be placed on opium than anything else.

Dr. Kirby, of Pennsylvania, had removed an ovarian tumor weighing thirty seven pounds from a woman who was pregnant, and the pregnancy went on to term and a healthy child was born.

Dr. Theophilus Parvin, of Philadelphia, read a paper entitled

CASUISTRY IN OBSTETRICS.

Zoroaster, long before Cicero, gave us the maxim which contained the teachings of Cicero, "In doubt as to whether an action is right or is wrong, abstain." The order of Jesuits has given especial attention to this subject. Zoroaster's rule is excellent, but will not always do in obstetrics, because we cannot in all cases abstain; we must do something. Casuistry sometimes perverts, as in the case of the wife who excused her adultery by saying that she gave her body to her lover, but not her lips, with which she had made her vows of fidelity.

THE TREATMENT OF ECTOPIC PREGNANCY

in its earlier stages is one of the pressing questions of the hour. The progress of science brings up new questions in casuistry in obstetrics. The ophthalmologist finds albuminuric retinitis in the pregnant woman, and tells her physician that the continuation of her pregnancy is at the peril of her vision, and possibly of her life. The speaker thought that woman when pregnant should be treated as

well as other animals in a similar condition. Continence for months or years is possible, and not injurious. Notwithstanding the many influences brought to bear on the physician to prevent conception, he takes great responsibility who attempts to thwart nature's law. Information of this sort, if given even to those who may seem to require it, will soon become general, and a strong defence to female virtue will be taken away.

CRANIOTOMY

he considered one of the most painful, serious, and difficult questions in casuistry in obstetrics. He reported several cases in which the operation had been performed, and the child had to be killed after delivery, or partial delivery. Those who advise craniotomy on the living fœtus cannot decide on the measurements of the conjugate which demand it. The field of craniotomy is being steadily restricted, but that it will entirely disappear, except for hydrocephalus, few are sanguine enough to believe. Amputation of the pregnant uterus is destined to occupy a more prominent position than it has yet done. It is yet to be decided whether hysterectomy or hysterotomy will save the larger number of patients.

Dr. Wm. H. Parrish, of Philadelphia, then read a paper on

PELVIC ABSCESS IN THE FEMALE.

He divided this into three subdivisions, areolar, intratubal, and ovarian. Chronic pelvic cellulitis occurs only as a sequel to pelvic abscess. We usually have the history of gonorrhœa in the husband, dyspareunia in the woman. He had never met with an areolar abscess dependent upon extension of gonorrhœal inflammation from the vagina or uterus directly through the walls of these organs into the pelvic areolar tissue. Chronic cellulitis, unless becoming such by complication, is a gynecological myth, and has an existence only as an ignis fatuus in the brains of former members of the profession. Abdominal surgery has demonstrated in numerous instances that chronic cellulitis has no independent existence. That intra-tubal abscess occurs with very much greater frequency than areolar abscess must appear to every one familiar with abdominal surgery. The successful treatment of pelvic abscess often demands an exercise of the most deliberate judgment and the highest operative skill. The speaker urged the necessity of operating early in every variety of curable pelvic abscess. The besetting sin of the family practitioner and the timid and doubting operator is to wait. In this delay the dangers become cumulative and the surgeon is asked to operate when the case has become hopeless. If the patient dies the practitioner is discouraged, and in his next case he waits longer still in the hope that pus may not form, or that it may escape spontaneously. He thinks that in some of his cases suppuration has taken place, resolution followed, and so justifies his delay. Early surgical interference with the knife should be the rule in all varieties of pelvic cellulitis.

Dr. A. Reeves Jackson, of Chicago, read a paper on

INJURIES OF THE BLADDER DURING LAPAROTOMY.

Details more or less complete were given of sixty-seven cases which had been collected by the author from various sources. Some of them had been already published, but the greater number were obtained through personal correspondence with the operators in whose practice the accidents happened, and were made known for the first time.

Considering the conditions under which bladder injuries may happen during laparotomy, it is not necessarily discreditable to any surgeon to meet with them, for they may not be due to any carelessness or lack of skill on his part. In many of the cases cited no possible degree of diligence could have averted the accident. Adhesions of the peritoneal surface of the elongated bladder to that of the anterior abdominal wall frequently cannot be known in advance, and their existence is only demonstrable after the viscus has been opened. The use of the catheter as a diagnostic means is not always available, because the compression of the bladder against the pubis may prevent the introduction of the instrument beyond that point. Certainly, however, this attempt should always be made in any case of suspected difficulty, and would seem to be even a proper and unobjectionable routine method. Another useful precaution is to avoid prolonging the abdominal incision far down toward the pubic bone, until the opening into the peritoneum has permitted the relations of the bladder to be ascertained.

The mortality of the cases in which the bladder has been wounded is large, namely, about thirty per cent., but this is due to the complicated and serious character of the cases in which the accident has occurred, the consequently increased length of the operation, and the greater danger from shock, rather than to the mere vesical injury. The latter, indeed, does not seem of itself to be very important as influencing the recovery of the patient. But, notwithstanding this fact, a urinary fistula adds greatly to her discomfort, and, occurring under such circumstances, must be productive of chagrin and annoyance to the surgeon.

Inasmuch as the bladder is recognizable with more difficulty when empty than when full, it would be better, in cases presenting doubtful features, to commence the operation with the viscus wholly or partly distended. When its position has become known, after the completion of the abdominal incision it may be emptied by an assistant.

TREATMENT OF INJURIES OF THE BLADDER DURING LAPAROTOMY.

When it is known at the time of operation that the bladder has been cut or torn, the opening should be at once closed with a continuous suture of catgut or fine silk, applied so as to invert the edges of the wound and bring together the serous surfaces. A permanent catheter ought to be used during the first two days. After the expiration of that time, its constant use is usually unnecessary; and, if the wound is small—less than an inch in length—the instrument may be subsequently dispensed with. If, however, the wound is large—exceeding two or three inches—the bladder ought to be artificially emptied during three or four days additional. In all cases the catheter should be used so long as the urine contains blood.

In the cases in which urine appears through the abdominal wound subsequently to the operation, at a time and under circumstances which may make it dangerous or inexpedient to reach the seat of the vesical injury, the catheter ought to be used either continuously, or at short intervals, for the purpose of lessening the amount of urine which escapes through the fistula, and thus aiding in the closure of the latter. If, however, the fistulous opening shows no disposition to close after two or three months, the edges should be freshened to the depth of half an inch or more, and stitched together.

In exceptional instances it may be expedient to affix the wounded edges of the bladder within those of the abdominal incision, in the manner detailed by Thomas and others; but as this plan must interfere to some extent with the subsequent contractility of the bladder, it is not to be commended as a usual practice. The suturing and "dropping" of the vesical wound is the better method.

Dr. A. B. Carpenter, of Cleveland, read a paper entitled

ALEXANDER'S OPERATION, WITH A NEW METHOD FOR SECURING THE ROUND LIGAMENTS.

The speaker confined himself principally to a few remarks regarding the fastening of the round ligaments. As a radical cure for this most distressing condition he believed the Alexander operation had no equal, because of the simplicity of the work and the comparative, indeed almost absolute, freedom from mortality. Deaths have been recorded as resulting directly from the operation,

yet this occurred in the early time before the detail was well understood.

The greatest objection raised in the past against this method has been the difficulty in finding the round ligaments. This, however, applied chiefly to the operations for retroversion and retroflection where the ligaments were small and very fragile, breaking while being drawn out, and causing the operation to be abandoned as incomplete, and the surgeon to bear the blame of his work being a failure. . . .

In cases of complete prolapsus it is entirely different, the ligaments have become thickened and greatly enlarged, the difficulty in finding them in most cases is entirely removed; the many years of constant dragging upon the ligaments usually resulting in an hypertrophied condition, so that, instead of being small and fragile, we find them of much greater proportions; so that, by first replacing the uterus and then having it held well up by a sound in its cavity, the ligaments can be carefully drawn out with little or no danger of their breaking.

In 1885, the speaker had the pleasure of listening to a paper by Dr. Alexander himself, read before the British Gynecological Society, wherein the method of shortening the round ligaments was described, and he was particularly impressed with what seemed to him to be the insecurity of the fastenings.

If we consider, he said, the structures involved, the dense unyielding fibres of the pillars of the external ab dominal ring, at the same time the round, smooth character of the ligaments, composed as they are of dense fibrous tissues, thus affording a limited opportunity for the formation of strong adhesions in the wound, it seemed to him that a reasonable explanation could be found why many of the cases that have been operated upon have reported themselves in after months as not improved, the anchorage being so slight and frail that the uterus, by continually dragging, tears the ligaments loose and gradually settles down to its old position.

The author's method is the following: The uterus being replaced and held high up by an assistant, the incisions are made and ligaments on either side drawn out until the uterus is found to be well up and forward, a needle armed with a silver wire No. 26 is then passed through the external pillar of the ring, through the round ligament, then through the internal ring; this is then twisted down firmly, cut off, and the ends bent over and crushed down, that they may cause no irritation. The slack of the ligaments is then cut off, leaving just sufficient to fill the bottom of the wound. The ligaments are then split to within a short distance of the silver wire and turned partly outward from each other, and stitched with fine gut to the lateral walls of the wound, the latter being then closed, a small drainage-tube inserted, and the whole covered by an antiseptic dressing. The silver wire is left to become permanently encysted, and thus hold the ligaments firmly in place.

A high posterior plastic operation should then be made on the vagina, and upon the removal of the sutures from the latter operation, a Hodge, or perhaps what is better, an Albert Smith pessary with a high bar, should be introduced and worn for not less than six months.

This method of fastening the round ligaments was, in the author's opinion, superior to any with which he was acquainted, as it afforded a firm anchorage and prevented the uterus from dragging upon the ligaments, thus drawing them gradually out, and defeating entirely the object of the operation.

Dr. A. Cordes, of Geneva, Switzerland, exhibited

A NEW TWO-WAYS CATHETER FOR UTERINE INJECTION.

He had a new catheter made in Paris, consisting of one tube sliding into another so as to permit of thorough cleansing and scrubbing in every corner where microbes might penetrate. This did not act well, for it could not be made watertight without making it too hard to work. In his new catheter he uses Bozeman's form of the sigmoid flexure. He hoped to have it made of hard rubber, which does not corrode in bichloride or any other liquid. He then described and criticised the instruments of Doléris, and Pajot, Roderier, and Olivier. Cordes' instrument has no rigid tube, no screw, no blind end, or cul-de-sac, no angle, no corners where the microbe could hide, and no eyelets. Being open on the distal end it throws the fluid into the fundus uteri, from whence it comes down and returns by the exit channel. The idea of two grooves came to him on looking at the horse-shoe catheter of Budin.

Dr. Augustus P. Clark, of Cambridge, Mass., read a paper on

CHRONIC CYSTITIS IN THE FEMALE.

Few diseases prove to gynecologists so vexatious or intractable as chronic cystitis. The lesion, or morbid causes giving rise to cystitis are numerous, whether it be the acute or chronic form. Each case merits separate consideration. The arrangement of the muscular coat of the bladder is such as to give it a wonderful immunity against ordinary accidents and conditions which occur in the viscus itself. This fact should make us remember that symptoms present in a case of cystitis are often but an expression of the organ that there has occurred a lesion or a morbid process at a distance from the part seemingly affected. Anal and rectal inflammation are not uncommon causes of cystitis. Resort to dilatation of the urethra will be followed by the best results in cases where tenesmus is an important symptom, and in which the parts around have been contracted and hypertrophied. Faradism with one pole near the uterus and the other over the bladder gives speedy relief. Corrosive sublimate, 1 to 2,000, will often prove of benefit when no marked organic changes have occurred, the train of symptoms due to suppuration, fermentation, and the uncleanliness generally. No general rule of application can be laid down in all cases. Some will yield readily, others will defy all recognized methods of treatment, and can be cured or corrected only after the most ingenious and skilful operation.

Dr. A. S. Gordon, of Portland, Me., reported

A SUCCESSFUL OPERATION FOR EXTRA-UTERINE PREGNANCY.

He had on a former occasion reported to this Section his first case, which he supposed to be the second successful case in America, but which he now knew to be the third. The case ran as follows: February, 1888, Mrs. B—— missed her menses. She was twenty five years of age, married eight years, and had never been pregnant nor used means to prevent pregnancy. March, April, and May were missed. June 1st, she was taken with a severe agonizing pain in the abdomen, but finally got relief. Operation was made and a fœtus at three and a half months was taken out. He believed that just as soon as a diagnosis of extra uterine pregnancy was made, we should open the abdomen and remove the fœtus.

THE USE OF GALVANISM IS SIMPLY MALPRACTICE,

he said. If we can make a diagnosis, and he thought as a rule we could, we should operate. He did not believe that we could make a diagnosis in ninety-five per cent. of the cases, as had been claimed, but we could in a great many.

The paper was discussed by Drs. Taylor, of Cincinnati; Currier, of New York; Cushing, of Boston; Hoffman, Price, and Baldy, of Philadelphia. The strong statements of Dr. Gordon concerning electricity were considerably modified by the discussion.

Several other papers were read by title, and the session then adjourned.

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A Colorado Physician recently held the body of a Kansas man, who died, for the payment of his bill, amounting to $3,600. Report does not state whether it was effectual in securing the money.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, June* 6, 1889.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

DR. PRINCE A. MORROW related

PERSONAL OBSERVATIONS OF LEPROSY IN MEXICO AND THE SANDWICH ISLANDS,

and gave magic-lantern illustrations of typical cases. Leprosy, he said, possessed only a historical interest to the majority of persons; it was by them classed in the same category as pestilences and plagues, which formerly devastated countries but which now were extinct. Unfortunately, however, it was not to be so regarded; it was a living, an actual reality. In area it embraced fully one-third the surface of the globe. By reference to a map which he exhibited, it would be seen to extend from the tropics to the Arctic regions; it embraced every variety of soil and climate; it affected most diverse peoples.

Thus climate, soil, and race could not be regarded, as had been done by some, as efficient factors in etiology. It would be impossible to estimate the exact number of lepers on the face of the earth, but India alone was supposed to have fully one hundred and fifty thousand, China and Japan contained large numbers, and there were many in Egypt and other portions of Africa, South America, and elsewhere. There were from five to ten thousand in Brazil.

Whenever leprosy appeared in a country in which it had not been known before, it could be traced to a human agent. It never originated spontaneously. There was good authority for the assertion that the disease was introduced into Central America by the Portuguese, into Mexico by the Spaniards, and into Canada by the French. In the United States it could be traced to at least three or four distinct sources, according to the locality. In California it was introduced by the Chinese, in the Northwest by the Scandinavians, etc. He called attention to the fact that a centre not yet mentioned was Salt Lake City, where it had been brought by Mormon converts from the Sandwich Islands.

His own observations began the past winter about New Orleans. It had become well known that Dr. Blanc had alone seen forty-two cases in that city. He had learned during his visit that cases were scattered here and there at different places about New Orleans. He saw a number in Mexico, and in San Francisco he found six or eight in the pest-house, three of them being Chinese and one a negro. The Sandwich Islands afforded perhaps the best opportunity for studying the disease of any place in the world. There were many cases on the Islands, and they were segregated. In other countries certain elements of confusion surrounded the origin and general study of the disease which were absent here. It was easier to arrive at the truth with regard to the influence of heredity, race, etc., in the Sandwich Islands, where the disease had been introduced within half a century. There were nearly eleven hundred cases in the settlement at Molokai when Dr. Morrow was there.

Most of our positive knowledge of leprosy has been developed by modern methods, and might be formulated as follows: It was a parasitic disease; the leper bacillus presented certain analogies with the bacillus of tuberculosis. Like the latter, it was endowed with remarkable vital tenacity, and, like all specific microbes, it showed an affinity for certain tissues rather than for others. It was found in the nodular infiltrations upon the skin and mucous membranes; it was abundant in the lymphatic spaces; it was present in the liver, spleen, testicles; very abundant in the connective tissue and peripheral nerves; it was absent from the blood, from the urine, and, as far as known, from the physiological secretions. It was present in abundance in the vaccine pustule of leprous patients. It never originated spontaneously; it did not attach to the soil, water, air, or food; it could always be traced to man. It was known, further, that leprosy had a somewhat prolonged, although undetermined, period of incubation, varying perhaps from three to five years, but in some cases it seemed to have been prolonged to seven, ten, or even fifteen years. The prodromal symptoms were often very indefinite; when well developed, however, the disease had a characteristic symptomatology. It was slow and irregular in course, and progressed almost invariably to a fatal issue.

Belief in the contagiousness of leprosy had been almost universal until recent times. After the Royal College of Physicians of London formulated the dogma, in 1867, that leprosy was not contagious, this view gained very considerable ground. In the United States, however, the leading dermatologists had never accepted the heresy of non-contagion. The history of its development and course in the Sandwich Islands afforded most conclusive evidence of its being contagious. Upon no other possible ground could its diffusion among the native population be explained. At the present time it was supposed from five to ten per cent. of the Sandwich Islanders were lepers. He had had opportunity to examine a great many of the patients there, and his experience had been like that of others, that in almost every instance a history of exposure could be obtained, either in sexual relations or conditions of prolonged intimate contact. One way in which the spread of the disease could be accounted for was the fact that relatives were permitted to care for the diseased in leper settlements. A large proportion of such helpers also became diseased, the percentage amounting in 1880, according to the report of the President of the Board of Health, to about one-third (twenty-three out of sixty-six helpers had contracted the disease, and eleven others were suspected). Many of the lepers came from countries where leprosy was not known, and where the question of heredity could not be entertained.

With regard to the mode of infection, our knowledge was imperfect. The probabilities were that in the large majority of cases infection took place through sexual intercourse. But it was also probable the disease could be inoculated through abrasions upon the skin and mucous membrane, and by the bite of insects. Another mode of infection was through impure vaccine, and in this manner it seemed probable a number of cases arose in the Sandwich Islands. One patient who came under Dr. Morrow's observation claimed to have acquired the disease through the bite of a leper, and another through sticking himself with a pin, which he did in a spirit of bravado, in imitation of this act by a leper who had used the same pin.

Dr. Morrow mentioned the case of the criminal who was permitted to choose between the death penalty and inoculation with the virus of leprosy and imprisonment for life. He chose the latter, was inoculated in 1884, and for some time his case was regarded as negative; but recently he had shown what Dr. Morrow regarded as unmistakable symptoms of leprosy, including the presence of the bacillus in his tissues at the point of inoculation. This was the first instance on record in which intentional inoculation had succeeded.

Belief in the heredity of leprosy has been almost universal, yet from his own observations he had found little evidence to support it. He thought, however, that a predisposition to the disease might be transmitted to offspring, as was true of tuberculosis; but he did not believe the actual germs of the disease were ever transmitted. Children never showed evidence of leprosy before the third or fourth year, usually not before the fourteenth year, while the great majority of cases occurred between the thirtieth and fiftieth years of age. Thus it would be seen that there was a certain analogy between this disease and late hereditary syphilis. Only a small proportion of the children in the Sandwich Islands, born of leprous parents developed the disease, unless exposed to prolonged contact with those thus affected.

The speaker said he was well aware that there were cases which seemed to show that leprosy was a non-contagious disease. For instance, he threw on the screen the

picture of a man who had cohabited with a leprous wife many years, and who had one daughter, aged twenty-five, who was a leper, yet he had himself remained in excellent health. There was a woman on the Islands who had had three husbands, each one of whom had become lepers, yet she remained apparently free from the disease. Was it not possible that she had had the disease without external manifestations, and had given it to her three husbands successively? It would appear that in leprosy, as in other contagious diseases, the system had to be in a receptive condition before it could be acquired on exposure. In some instances persons had remained free from the disease during an exposure of twelve or fifteen years, then contracted it and died. The author then read from his published description of the symptomatology, and showed, in the course of his illustrations, typical examples of the anæsthetic, tubercular, and mixed forms, and closed his remarks by asking the question whether there was danger of the spread of leprosy in the United States; or did the disease, under our hygienic and civilized conditions, lose its potentiality for mischief?

Dr. C. W. Allen opened the discussion on the subject of

THE DANGER OF THE SPREAD OF LEPROSY IN THE UNITED STATES.

His convictions on the subject, he said, were very decided. Two years ago, before the County Medical Society, he had expressed the view that lepers should not be admitted to this country, and that those already here should be segregated. At that time he had estimated the number of cases here at one hundred and fifty, which was considered by some to be an overestimate. He now believed, however, that there were many more. When we further considered the large numbers at Key West, Cuba, and elsewhere, likely to gain access to our mainland at any time, we could not shut our eyes to the danger. With regard to the influence of civilization being against the spread of the disease, it should be remembered that there were many cases in England only a century ago, when the conditions were essentially what they were now in this country. There were so many there then that a leper-house had to be established for their reception. With regard to evidence of the disease not being contagious, it was altogether negative, and a single fact of a positive nature was sufficient to overturn it.

Dr. L. D. Bulkley regarded the question as one of the most important ever brought before the Academy. He thought no one who had listened to the remarks of Dr. Morrow, and read the literature of the subject, could fail to be convinced that wherever leprosy had been introduced and allowed full freedom it had spread; and no one could deny that where those affected were properly cared for and segregated that the disease had disappeared. Dr. Morrow having asked the question whether the leprosy was in danger of spreading throughout this country, he would say that until the past six or eight months his fears had not been greatly excited, but he had been somewhat surprised to learn of the number of cases recently recorded in New Orleans and elsewhere, and he thought it well that the question should be agitated, that boards of health in different places should learn the number of patients in their vicinity and report them. While leprosy seemed to be conveyed by contact from one person to another, yet he saw no reason why the bacillus should not be capable of living in the water or soil.

Dr. G. H. Fox took a more hopeful view of the subject than that expressed by the other members. The cases of leprosy in this country, he said, were nearly all imported ones. They were few, in spite of the fact that there was no law prohibiting their immigration, and none compelling their segregation. Only one patient, as far as he was informed, had been cured. He was willing to grant that the disease was contagious under certain circumstances, but that there was much danger he did not believe. There was no more danger than that dogs would go mad and spread hydrophobia in a neighborhood; yet in this case the people generally did not hesitate to take the risk and keep dogs, even though they were useless. In fact, he thought that the danger of the spread of leprosy in the United States had no rational basis. He had not yet learned of its spreading throughout a civilized community. It might be different among the Sandwich Islanders, who lived in large numbers under the same roof, ate with their fingers out of the same dish, etc.; but the white people, even on the Sandwich Islands, were remarkably free from leprosy.

He thought, however, that lepers should be kept out of this country by a strict enforcement of the quarantine laws, not because of danger of spread of the disease, but because, like paupers, they were likely to become a burden to the community.

Dr. H. G. Piffard said the questions raised to-night were the same as he had asked ten years before, and the ground taken by the majority of speakers was the same as that which he had then taken. At that time the Academy appointed a committee to investigate the existence of leprosy in the United States, and it was able to learn of only forty or fifty. It was probable there were more then, but he believed there were now five times as many as ten years ago.

He advocated a strict enforcement of quarantine against all incoming lepers by the general Government, the establishment of a hospital by the same power for the reception of those who would voluntarily enter it, and forced segregation by State authority against others if thought desirable.

Dr. F. R. Sturgis thought the question of legislative interference depended altogether upon that of the contagiousness of leprosy. He did not doubt this, although there were some links lacking in the chain of proof. He thought the earlier stage was more contagious than the later. It could be admitted that there were bacilli in both syphilis and leprosy, but it was still a question whether they were the true cause of either disease. As to less danger of spread of the disease in this country than in the Sandwich Islands because our people were more cleanly, he would only suggest to Dr. Fox to go into some of the tenement-houses of New York and observe there the degree of cleanliness existing among a large part of our population; he thought it was proper for this Society to call attention of the authorities to the fact that leprosy was contagious, and that quarantine should be enforced against leprous immigrants.

Dr. R. W. Taylor said the speaker of the evening had clearly shown the possible danger of leprosy becoming endemic in this country, yet during the past fifteen years he had seen almost constantly one to three lepers sleeping in the crowded wards of the hospitals on Blackwell's Island, and in no instance had the disease been conveyed to others. While it was desirable to call attention to the existence of cases in the country, yet he believed there was no immediate danger of an endemic.

Dr. Morrow, in closing the discussion, called attention to the improved condition of the people of the Sandwich Islands over that of some twenty years ago, and said the spread of leprosy there could not be attributed to dirty habits. They washed themselves very often, perhaps half a dozen times a day. He thought the tendency of the disease to spread more rapidly in some communities in which it had gained a foothold, than in others, might be accounted for by the fact, as he believed, that the anæsthetic form was not contagious, and it was this form which predominated in some places, while the tubercular form was in the ascendency in others. He doubted also whether leprosy was contagious during the later stage. In reply to Dr. Fox, he said all would probably be in favor of enforcing strict segregation and quarantine against such contagious diseases as syphilis, tuberculosis, etc., if there were altogether but a few hundred cases, and by doing so the disease could be entirely extin-

guished. That, he believed, was what could be done in the case of leprosy.

NATIONAL BOARD OF YELLOW-FEVER EXPERTS, ETC.

The committee appointed to report on this question, consisting of Drs. Hadden, Jacobi, and Armstrong, reported that the proposed resolutions were in conflict with the Constitution of the United States, and that the present quarantine laws, if enforced, were sufficient.

DR. JOHN C. PETERS called attention to the report of the State Board of Health on the nuisances existing in the region of the Croton water-shed, and, on motion, a committee, consisting of Drs. Jacobi, Peters, and Baruch, was appointed to petition the Mayor and Aqueduct Commissioners to have the nuisances abated.

THE PRESIDENT announced that at the next meeting the architect would report on the plan of the proposed new building, after which a collation would be served, and he invited as many as could possibly do so to be present.

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*Stated Meeting, June* 20, 1889.

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

NUISANCES ON THE CROTON WATER-SHED.

The committee appointed at the last meeting, consisting of Drs. J. C. Peters, A. Jacobi, and S. Baruch, reported through its chairman, Dr. Peters, that it had thus far traced the sole responsibility of abating the nuisances to the Commissioner of Public Works, Mr. Gilroy.

On motion, the report of progress was accepted, and the committee continued.

DR. A. JACOBI then read

NOTES ON THE BAKING OF BACILLI,

being a denunciation of Weigert's advertising scheme, and a review of his own experience with the inhalation of hot air in the treatment of phthisis. Weigert, supposed to be an American physician, now of Germany, claimed to have discovered a method of curing phthisis by the inhalation of hot air, and he had made free use of Dr. Jacobi's name in advertising his apparatus for carrying out this treatment. The treatment was not original with Weigert, nor had Dr. Jacobi, as had been asserted, bought, endorsed, or recommended the apparatus in question. Moreover, as appeared further along, he had little confidence in the method. To Halter belonged the honor of suggesting the treatment of phthisis by the inhalation of hot air with the view of killing the bacilli in the lungs. The idea arose from observing the immunity from phthisis of workmen in a lime-kiln where they were exposed to a high degree of heat, 122° to 158° F., so high that it would destroy the tubercle bacilli provided it continued at that degree until it had reached the lungs. The air inhaled by workmen in a lime-kiln was dry and rarefied. A moist atmosphere of a like temperature would be more destructive of the bacilli, but was less endurable by the phthisical patient. Dr. Jacobi said, that having been requested to admit Weigert's apparatus into his wards at Bellevue Hospital, he did experiment with it some time ago, and for a while the results made a favorable impression on the physicians in attendance, for the patients, or a part of them, seemed to improve under the treatment. More careful observation, however, showed that the improvement was doubtless due to rest in the hospital, in an atmosphere much purer than that in which the patients had lived in their tenement homes. The instrument itself was not as good as that which one of ordinary ingenuity could improvise; the atmosphere on its way to the lungs from the flame was found to have fallen from above 300° F. to about the temperature of the body when it had reached the mouth. Of course if it were above the temperature of the blood it would become further cooled on its passage toward the lungs. Some of the hot air might get into the alveoli, but very little. In order to obtain benefit from such treatment it would be necessary not only that the air inhaled be of a high temperature, but that the patient be in a room in which the thermometer registered at least 105.5° F. In other words, it would be necessary to produce a sort of artificial fever, and it was evident that such treatment must prove injurious to any other than patients in the very first stage of phthisis. He added that two of his patients suffered from cough and vomiting during the treatment with hot air, and were distinctly better when it was discontinued.

MR. R. H. ROBERTSON, architect, then presented

PLANS FOR THE NEW ACADEMY BUILDING,

about to be erected in Forty-third Street, west of Fifth Avenue. The building will present a front of seventy-five feet, a depth of one hundred feet, will be four stories and a basement, be constructed of a dark-red sandstone and rock-faced brick. The first floor will be two-step rise from the sidewalk, be divided into coat, reception, smoke, and dining-rooms, and the large hall. The latter can be still further enlarged by raising the door which will separate it from the dining-room. Beginning on the next floor, three elevations will be devoted to the reference library, three reading-rooms, and one stack library with a capacity for 230,000 volumes. On the third floor will be four large section-rooms, also specimen and apparatus room. There will be a room for photography on the fourth floor, also for the librarian, and for articles which pertain to banquets. The basement will be divided into boiler, unpacking, storage, closet, and janitor's rooms.

DR. WALTER MENDELSON read some resolutions, with a preamble, practically consisting in a remonstrance against the appointment of persons to the position of President of the Board of Health who are ignorant of sanitary matters. His motion to refer the matter to the council was carried.

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## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, May* 27, 1889.

ALEXANDER S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

DR. ABRAHAM JACOBI read a paper entitled

RHEUMATISM IN INFANCY AND CHILDHOOD,

in the first part of which he mentioned the limited bibliography. It began with inaugural theses by two pupils of Roger, 1864 and 1866, followed by a paper by Roger himself in 1867. In 1875 Dr. Jacobi wrote on the subject in the first volume of E. C. Seguin's "American Clinical Lectures." Its study had been renewed to a certain extent the past five years. It was Dr. Jacobi's object to consider principally the therapeutics of acute rheumatism.

Acute rheumatism, he said, was a frequent disease of both infancy and childhood, but only few recognized it to be so. The number of cases of valvular disease of the heart, mainly of the right side, in children under five years of age ought to be suggestive to doubters of the frequency of rheumatism before that period. Nor was the number of rheumatic cases limited to those having cardiac disease; there were many cases which ran their full course without terminating in disease of the heart. The heart should be watched in every doubtful subject, for endocarditis was sometimes the first sign of the acute rheumatism of children, even in apparently mild cases. Pericarditis was not very rare. When chorea minor showed itself, the heart and the joints should be examined, for there were instances in which this disease occurred not at the end, but at the beginning, of acute rheumatism.

In adding a few words on diagnosis, he said fever was a common symptom in small children, every physical disturbance raising their temperature. In acute rheumatism it was often but slightly elevated. Sometimes it rose at irregular intervals, in some instances being highest about noon. The swelling of the joint was apt to be very trifling, and to be overlooked. Pain, either spontaneous or on pressure, was often much less than was seen after fatigue,

syphilitic disease, etc. The diagnosis was apt to be made more difficult by the affection limiting itself to but one joint temporarily, or throughout the attack. Then the disease often occurred in the knee or hip, joints much subject to traumatic and tubercular troubles. The diagnosis also failed to be made in many cases because of its being denominated growing pains, a term which should have been dropped long since. What had been called growing pains was of various origin and nature. It might be a neurosis of the joint, an epiphysitis, but in a large majority of cases it was rheumatism.

The treatment of acute articular rheumatism had been quite unsatisfactory down to modern times. A few indications were furnished by the actual or alleged causes of the disease. By some it had been regarded as endemic. It was sure that certain localities had been known to harbor a great many cases at the same time. Thus, change of home, if practicable, ought to be made, provided the case was one of a number in the same neighborhood. Contagion had been supposed to spread the malady, but the number of observations of the kind had been very limited indeed.

Rheumatism was apt to make its appearance after some infectious disease, as diphtheria, scarlet fever, dysentery, and erysipelas. Hence care devoted to those sick with these diseases would prove a powerful preventive of rheumatic fever.

The blood had been found changed, the alkalinity being less pronounced; but this change, or the actual presence of acid in the blood, had also been either proved or assumed to exist in cachectic conditions of numerous kinds. In them, as in acute rheumatism, lactic acid had been found in undue proportion, yet when introduced into the circulation it never produced articular rheumatism. The diminution of the alkalies in the blood justified the administration of an alkaline salt throughout the course of rheumatism, particularly of potassium.

Sudden changes of temperature were certainly among the causes; exposure to wind and moisture would bring on an attack. This was particularly so in those with an inherited predisposition. Such inheritance was not at all infrequent. The treatment of such cases must be mainly preventive. The tendency to be easily influenced by sudden changes of temperature could be modified or removed by the use of cold water. Warm clothing and bedding were indicated. Nothing could be more injurious than exposure of the surface to wind and rain. The swollen and painful joints must be protected against pressure of blankets. The ice-bag or cold wet cloth to the affected joint was sometimes of benefit. The wet bandage or pack, applied around the joint should be changed every hour or half-hour. Anæmic children preferred hot applications, perhaps dry ones. To relieve pain he could not advise subcutaneous injections of carbolic acid, as had been done by some. In very severe cases he had been compelled to administer a few drops of a solution of morphine hypodermically. As a rule, an anodyne application around the joint (such as chloroform, morphine), covered by oiled silk, or the use of a mild galvanic current, would give relief.

Distention of the synovial membrane during retarded convalescence was troublesome, and might be treated by compression with bandages or collodion applications, by gentle massage and the galvanic current. Iodine was useful, also the internal administration of iodide of potassium or sodium, or both, five to twenty grains daily. Officinal ointment acted through the gentle kneading necessitated by its use, but absorption did not take place. Iodide of potassium in glycerine would act better, but was inferior to lanolin ointment. Dissolve iodide of potassium in equal parts of water, and some fat and a larger quantity of lanolin, and apply to the joint. Best of all was to brush copiously iodoform collodion over the affected joint, and allow to dry. Very old cases, with chronic effusion into the joint, required aspirating and washing out.

Endocarditis demanded absolute rest, every exertion proving injurious. Hence, occasional doses of opium or bromides would have a good effect. The ice-bag, or, if too heavy, the ice-cloth to the cardiac region would act well. But not every murmur meant endocarditis. Both chorea and endocarditis could be mitigated or prevented by early attention.

The temperature was rarely high, but there were cases in which it went up to 104° or 107° F., and it was in them that delirium and other nervous symptoms made their appearance. Antipyretics were then required. The cold pack was the readiest and most effective. It was particularly indicated in cases complicated with endocarditis. It was also in these cases that such antipyretics as antipyrin, antifebrin, and phenacetin were indicated. A single large dose of antipyrin for the night—say ten to twenty-five grains—sometimes succeeded better than many smaller doses.

As a rule, salicylate of sodium hastened disappearance of pain and swelling, but it ought not to be tried longer than from three to five days. Sulphate of quinine was sometimes indicated. Alkaline salts or mineral waters were called for, as Vichy, bicarbonate of sodium, or one of the nitrates. Vegetable acids had been warmly recommended by some. Iodide of potassium and sodium had been justly highly commended, particularly where there was a tendency to chronicity. Remedies which had been administered for a specific effect in the rheumatism of children were not to be relied upon.

Gonorrhœal rheumatism was not sufficiently rare in children. When present it was usually in the knee, ankle, or shoulder. The effusion was likely to be purulent and excessive in amount. The treatment was more local than in ordinary rheumatism. Puncture might be made to ascertain the nature of the effusion. If there were pus, it might be removed, the cavity washed, and thoroughly disinfected. Then establish rest and apply gentle, steady pressure by bandage, with or without mercurial plaster or iodoform collodion beneath. Salicylate of sodium, or iodide of potassium and sodium, must be continued a long time.

After an attack of acute rheumatism small nodes or neoplasms, consisting of young connective tissue with numerous cells, might remain a few days or several months, but called for no special therapeutics. In that form of rheumatism in which there was a tendency to hemorrhage into the parts, cardiac stimulants were indicated early. Salicylate of sodium should not be administered, since it had a tendency somewhat to increase the hemorrhage.

Chronic articular rheumatism was rare in childhood. The treatment was about the same as in the adult. Salicylate of sodium was indicated only in acute exacerbations. The so-called hydropathic treatment, cold or hot baths, would prove beneficial. Local applications of tincture of iodine, iodoform collodion, etc., were called for. Much benefit was derived from alkaline waters. Dr. Jacobi recommended lithia water.

Muscular rheumatism could be diagnosticated occasionally in very young children; from six to twelve years of age it was not very rare. The symptoms did not differ much from those observed in the adult. The neck and back of the shoulders were most affected. The best preventive was the habitual use of cold water. The interrupted current was beneficial, as were also certain other remedial agents in individual cases.

Dr. William H. Thomson opened the discussion. He said his attention had been very early called to the etiology of rheumatism by the fact that while it was commonly attributed to cold and moisture, yet he had observed it to be quite prevalent among the inhabitants of the hot and dry desert of Syria. Gout, on the contrary, was to be found nowhere in Mohammedan countries. It was seen only in countries where alcohol in some form was used. On inquiring what there could be in common between the climate of Syria, for instance, and that of the north of Scotland which would account for the prevalence of

rheumatism in both of those places, he had arrived at the conclusion that the disease must be due to chilling of the skin when moist. In Arabia the heat during the day was intense, the inhabitants lay on the sand with inadequate cover during the night, the surface of the body, bathed during the day in perspiration, rapidly cooled, and rheumatism resulted. To show how great was the change from the temperature of the day to that of the night, his father had told him that he had never suffered so much from the cold as one night at the foot of Mount Sinai, when the thermometer during the day had registered 140° F.

Regarding the diagnosis of articular rheumatism, it was difficult to make, for all affections of the joints were apt to interfere with the functions in the same way. Diseases quite distinct in origin were often called rheumatism. An important point in differential diagnosis between rheumatism and gout was found in the pulse, it being soft and compressible in rheumatism, the contrary in gout. In scarlatinal rheumatism, however, there was an incompressible pulse, and with it there was often an enormous deposit of uric acid in the urine, sometimes pus, the affection approaching pyæmia. He was inclined to believe in an unknown function of the skin, which, when disturbed, led to a secondary product in the system which caused rheumatism.

He said Dr. Jacobi had alluded to the possibility of a connection between acute articular rheumatism and quinsy. He had himself seen some patients in whom an attack of quinsy was pretty sure to be followed within ten days by acute rheumatism. He had been able in nearly all cases to trace a connection between the rheumatic attack and chilling of the moist skin. That being so, he had a great fondness for the continued use of the warm bath in this affection. It acted as an anæsthetic, and rendered the urine alkaline. The skin should always be kept enveloped in flannel in rheumatic subjects. As a prophylactic he had for years prescribed oily inunctions, particularly on the back of the neck and shoulders. He also placed a great deal of reliance on cod-liver oil in chronic rheumatism. He fully shared the views expressed by Dr. Jacobi regarding carditis in the rheumatism of children, and warning against the likelihood of its occurrence even in mild cases. Particular care should be taken of children who showed any choreic symptoms. The growing pains referred to by the author led him to take precautionary measures, particularly in the administration of cod-liver oil, inunction of the skin, and the use of flannel underclothes.

A most violent rheumatic inflammation might be present in a joint and disappear within a short time, and leave no signs whatever of its former presence, a fact which was peculiar to this disease alone, yet in the heart permanent lesions were likely to result. He could partly account for this fact by the continued and rapid movement of the heart, it being much more rapid even than during health, and more rapid in the rheumatism of children than in that of the adult, while in the joints there was usually complete voluntary or involuntary rest or immobility. Because of the marked rapidity of the heart's action in the rheumatism of children, he gave aconite in full doses. Digitalis would not do so well as aconite in these cases. At the same time the blood should be rendered alkaline. The chest should be protected from cold air, and he would not allow the precordial surface to be exposed under any circumstances.

Dr. J. Lewis Smith said that during a practice of thirty years, or more, he had seen a large number of cases of rheumatism in children in private practice, but not having kept a record of them he would base his remarks upon the cases seen the past fifteen years at the Outdoor Department of Bellevue Hospital. He had diagnosticated seventy-eight cases in persons under fifteen years of age. In many of them, however, the diagnosis was based on the history and the presence of a heart-lesion. No case was under one year of age, few under two. He believed that rheumatism before the second year seldom showed much swelling by which it could be diagnosticated. He had seen tumefaction in tetany in babes six or eight months of age, which might be mistaken for rheumatism. In the vast majority of cases the rheumatism was in the lower extremities. The local manifestations were likely to be much less pronounced than in the adult. In some of the cases the parents had spoken of it as growing pains. The laity should be taught that there was no such thing as growing pains. Of his seventy-eight cases, forty-nine had distinct cardiac murmurs, and in many it was the cardiac disease that had led him to inquire for a history of rheumatism. In one child, aged twelve, an embolus of the brachial artery had led to lividity and coldness of the right hand. The parents said it had previously been troubled in the same way in the right leg. Most of the patients were seven to eight years of age, the vast majority between three and seven. It was very difficult to diagnosticate pericarditis if there were an aortic or mitral bruit to cover the sound. Enlargement of the heart was often present when the disease had lasted a year or more. The pulse was often 110 or even 150. As bearing on the relation between chorea and rheumatism, he said that during the same period (fifteen years) he had seen chorea minor in sixty-seven cases, in only eighteen of which was he able to assign rheumatism as a cause. There were certain reasons why the profession should yet hesitate to accept the microbic origin of rheumatism.

The important practical point was to make an early diagnosis and prevent heart disease. He had been in the habit of administering salicylate of sodium or salicylic acid in some form, and believed by thus cutting off an attack cardiac disease might often be avoided. He applied it to the parts also.

Dr. H. D. Chapin thought that while it had come to begenerally recognized that rheumatism was not an uncommon disease in children, yet it was very difficult to diagnosticate. There was no pathognomonic symptom. One had to judge rather by what might be called the composite of the disease; by the presence of pain, which was likely to exist in the fascia as well as the joints, by endocarditis, by the profound hydræmia which he thought was generally present, and by chorea. The pains were likely to first attract attention, yet a child often had pains in the legs due to over-exercise and not to rheumatism. Unlike in rheumatism, however, they were not so likely to have pain on rising in the morning as after retiring.

He quite agreed with what had been said as to the need of rest in endocarditis. The mistake was made in allowing the child to go about too soon. He had found tonsillitis in connection with rheumatism too frequently to be accounted for as a mere coincidence. He had diagnosticated rheumatism in one child of eleven months. It began in the elbow, went to the knee, then to the neck. In treatment he sought to stop intestinal fermentation and promote action of the skin. He gave hot alkaline baths, had flannel worn next the skin, regulated the diet, gave cod-liver oil, in many cases iron, and thus sought to prevent recurrence of the attacks.

Dr. August Seibert had counted his cases at the dispensary in 1888, and at that time had found rheumatism in thirteen children under one year of age. He had seen the disease occur in children first, then in the mother and father. He had for years been disposed to look upon rheumatism as an infectious disease. It occurred where sanitation was poorest; wherever there was filth and dirt there also was inflammatory rheumatism. The same was true of other infectious diseases. The best remedy was salicylate of sodium; its action must be in doing away with the germs of the disease. He administered it in children by the rectum, thus avoiding stomach and cerebral symptoms.

Dr. John C. Peters thought the rheumatism occurring under the conditions referred to by Dr. Seibert might be accounted for by cold and damp, and want of sufficient underclothing. He was disposed to account for it in that

way rather than by infection. He placed great reliance on alkaline baths.

Dr. August Caillé thought the evidence favored the view that rheumatism was surely an infectious disease. Ever since he had so regarded it, he had considered in what way it had entered the system. Those who had spoken to-night had mentioned its frequent connection with sore-throat, and he was disposed to believe that that was one of the channels through which it entered the system.

Rest was essential in treatment, yet it was very difficult to obtain in children. The indication in the use of drugs was to neutralize the poison in the blood. Alkalies increased the alkalinity of the blood and were beneficial; antiseptic chemicals were good. To prevent heart complication he gave a cardiac sedative, and also applied an ice-bag over the præcordium. He was very sanguine that within a reasonable length of time the chemists would find even a more efficient antiseptic remedy than those now used with which to counteract the poison of rheumatism.

NUISANCES ON THE CROTON-WATER SHED.

Dr. John C. Peters presented the report of the State Board of Health on the Croton water-shed, showing the necessity for abating the rapidly increasing nuisances in the region whence the city obtained its water supply, and, on motion, resolutions were adopted appointing Dr. Peters, the President, and the Secretary of the Society a committee to wait on the Mayor and Aqueduct Commissioners, and urgently request them to enforce the law in this respect.

## Correspondence.

### ELECTROLYSIS AND THE RADICAL CURE OF STRICTURE—WHY THE CHALLENGE HAS NOT BEEN ACCEPTED.

To the Editor of The Medical Record.

Sir: So many inquiries have been received by us in regard to the progress of the trial of electrolysis in the radical cure of urethral stricture, that we feel called upon to present a statement of how the matter stands, especially as there is an erroneous impression prevalent that our challenge was accepted.

We have had three meetings with Dr. Newman, who, after much amiable discussion, declines our challenge on the following grounds:

1st. That he is unable to obtain fair play in New York.

2d. That he objects to the use of dispensary patients.

3d. That he objects to either party interested furnishing the patients.

He offers, however, a counter-proposition, viz., that the trial take place in Philadelphia. That the patients be furnished by some disinterested party in that city, and that the committee consist of one member from New York, one from Philadelphia, and one from Baltimore.

In regard to the Doctor's inability to obtain fair play in this our city of New York, we must leave that for the profession to judge, stating, however, that the names of the gentlemen who had consented to act on the committee, if so requested, comprised those of Drs. Weir, McBurney, Bangs, and Abbe.

In regard to the second objection, we were unable to provide ten private patients who were willing to become the subjects of the experiments; nor (third) have we been able to discover any disinterested party who is willing to do so.

The Doctor's proposition we must decline, not only on account of the imputation on the profession such acceptance would imply, but also on account of the practical impossibility of making the constant trips to and fro which such trial would necessitate.

While regretting the outcome of this endeavor to prove or disprove the efficacy of electrolysis in the cure of urethral stricture, we cannot but feel that, to those of a logical turn of mind, at least, our effort has not been wholly fruitless.

Respectfully yours,

George E. Brewer,
William K. Otis.

Vanderbilt Clinic, Genito-urinary Department, June 20, 1889.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 16 to June 22, 1889.*

Forwood, William H., Major and Surgeon. By direction of the Secretary of War, the extension of leave of absence on surgeon's certificate of disability, granted in S. O. No. 118, May 22, 1889, from this office, is further extended four months on surgeon's certificate of disability. Par. 14, S. O. 142, A. G. O., Washington, June 20, 1889.

Fisher, Walter W. R., Captain and Assistant Surgeon. The leave of absence for one month granted by S. O. 30, c. s., Department of California, and extended fifteen days by par. 3, S. O. 37, c. s., from these headquarters, is further extended fifteen days. Par. 1, S. O. 4, Headquarters Division of the Pacific, San Francisco, Cal., June 12, 1889.

Harris, Henry S. T., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, leave of absence for two months is granted. Par. 13, S. O. 140, A. G. O., June 18, 1889.

Ten Eyck, Benjamin L., First Lieutenant and Assistant Surgeon (recently appointed). By direction of the Acting Secretary of War, ordered to Fort Leavenworth, Kan. Par. 2, S. O. 138, A. G. O., June 15, 1889.

Gardiner, John de B. W., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, relieved from duty at Fort Leavenworth, Kan., and ordered to Fort Reno, Ind. Ter. Par. 2, S. O. 138, A. G. O., June 15, 1889.

Wales, P. G., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, par. 3, S. O. 132, June 8, 1889, A. G. O., is so amended as to direct to report at Fort Huachuca, Ariz., for duty in place of Presidio of San Francisco, Cal. Par. 2, S. O. 138, A. G. O., June 15, 1889.

Wyeth, M. C., Captain and Assistant Surgeon. By direction of the Acting Secretary of War, relieved from duty at Fort Huachuca, Ariz., and ordered to Fort McDowell, Ariz. Par. 2, S. O. 138, A. G. O., June 15, 1889.

Wood, Leonard, First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War, relieved from duty at Fort McDowell, Ariz., and ordered to post of San Francisco, Cal. Par. 2, S. O. 138, A. G. O., June 15, 1889.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending June 22, 1889.*

Beardsley, Grove S., Medical Inspector. Granted a year's leave of absence, with permission to leave the United States.

Ferebee, N. M., Surgeon. Detached from special duty at Naval Academy, and wait orders.

Rothgauger, George, Assistant Surgeon. Ordered to the Naval Hospital at Mare Island, Cal.

Siegfried, C. A., Surgeon. Detached from the United States Ship Quinnebaug, and wait orders.

Curtis, L. W., Passed Assistant Surgeon. Detached from the United States Ship Quinnebaug, and wait orders.

Smith, George T., Assistant Surgeon. Ordered to the Army and Navy Hospital, Hot Springs, Ark.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 36, No. 3 NEW YORK, JULY 20, 1889 Whole No. 976

## Original Articles.

### RÉSUMÉ OF THE EXPERIENCE OF SEVENTEEN YEARS IN THE OPERATION OF DILATING URETHROTOMY.[1]

BY FESSENDEN N. OTIS, M.D.,

CLINICAL PROFESSOR OF GENITO-URINARY DISEASES IN THE COLLEGE OF PHYSICIANS AND SURGEONS, NEW YORK; CONSULTING SURGEON TO CHARITY HOSPITAL, ST. ELIZABETH'S HOSPITAL, THE MANHATTAN EYE AND EAR HOSPITAL, ETC.,

THE operation of dilating urethrotomy, for the removal of urethral stricture, as devised and practised by myself, has now been before the medical profession for nearly seventeen years; the first dilating urethrotome, with a brief report of six cases upon which it had been used, having been presented at a meeting of the New York Medical Journal Association, November 24, 1871.

Previous to that time internal urethrotomy, as a rule, was performed only as a last resort, in cases when gradual dilatation was for some grave reason deemed impracticable, or when only very temporary relief had been obtained by that method.

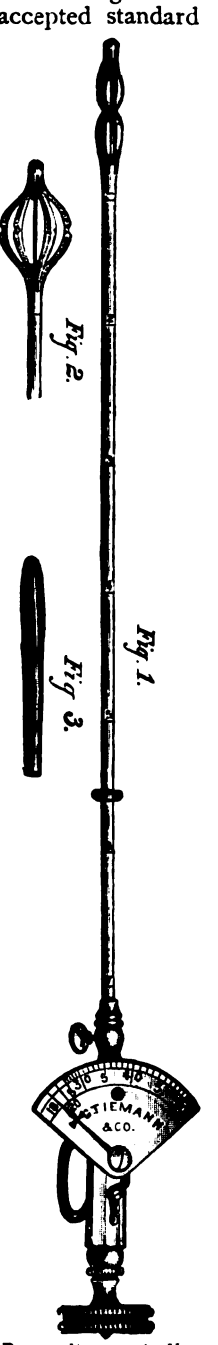
In the performance of internal urethrotomy, at that time, there were no fixed principles established for the guidance of the surgeon, as to the extent of the incisions.

The standard urethral calibre accepted by all authorities was then 21 mm. circumference (French scale), or No. 9 of the English scale, beyond which sizes no necessity for interference, on account of symptoms, was recognized. The individuality of the urethra had not been discovered, and urethral instruments for the most extreme dilatation, as for the over-distention of stricture, did not exceed 30 mm. in circumference; while 21 mm. was considered sufficiently large for use in all ordinary practice. The permanent cure of stricture by dilatation, by divulsion, or by division was not effected nor expected, and even the possibility of a radical cure, by any method, was denied by all accepted authorities. Under this condition of things, dilating urethrotomy was proposed. It was based upon the acceptance, first, of an individual calibre for every urethra; second, upon the alleged necessity (in order to secure the best results) for complete division of all presenting stricture up to the normal urethral calibre; this point to be ascertained by actual measurement in each case.

This was at first determined with difficulty, and only approximately, by means of accurately graded metallic bulbous sounds. Subsequently, however, with increased ease and precision, through the urethrometer which was presented by me to the profession in 1874. Through the use of this instrument, after a time it became apparent that a proportionate relation existed between the size of the flaccid penis and the normal urethra in any given case, and this fact was subsequently found of much value in estimating the normal urethral calibre, in cases where no instruments for actual measurement were attainable.

Through the use of the urethrometer, also, the external urethral orifice, which had early proved a serious obstacle in ascertaining or estimating the normal urethral calibre (especially as it had been previously accepted as a guide to that calibre), was found to be of varying size (independently of the urethra associated with it), except in its perfect development, when it was then found to correspond completely in size with that of the canal behind it. Further observations soon made it evident that contractions of the orifice were capable of producing troubles similar to those caused by stricture farther down the urethra.

The importance of recognizing the various degrees of contractions between the previously accepted standard (*i.e.*, 21 F. or 9 E.) and the normal calibre, as ascertained by actual measurement, was made more evident as the study of stricture troubles under these new conditions was proceeded with. It was found, notably, that gleet, which had from time immemorial been considered the opprobrium of medicine and surgery, was, in certainly a large proportion of instances, dependent on the presence of urethral strictures usually of large calibre, not readily detected in ordinary examinations. The urethrometer, which was the outcome of a necessity for definite measurements (in order to use the dilating urethrotome with accuracy), thus broadened its own field to an extent little expected when its use was initiated. Through the division of strictures, often but slightly diminishing the normal urethral calibre (previously recognized as frequent in cases of gleet), it was found that in some cases the gleet disappeared without other treatment, and thus its dependence upon the stricture for its continuance was finally demonstrated. It was also found that the method of operation upon a stricture made tense and thinned by dilatation required a much less extensive incision for its complete division than when flaccid, and that in thus dividing it there was a marked immunity from serious hemorrhage, from urethral fever, from abscess, pyæmia, etc., which had been considered sources of danger in internal urethrotomy when complete division of the stricture was contemplated.




Present Form of the Urethrometer.

In the experimental experience of the first years (1871, 1872, and 1873) with the dilating urethrotome, the grave responsibility of so radical a departure from previous methods was not underestimated. The attention of eminent surgeons was invited to the procedure, and their presence secured at many of the operations.

Frequent reports of progress were made to societies, and every available opportunity was accepted to demonstrate in public and in private, at home and abroad, the method of operating, and from time to time to present for examination cases upon which the operation had been performed.

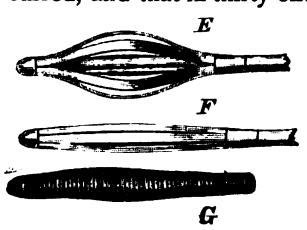
The new instruments, which at first were of necessity more or less crude in design, as well as in manufacture,

[1] Read before the Association of Genito-Urinary Surgeons, Washington, September, 1888.

were studiously modified and simplified, until, by 1874, it may be said that they were brought to a condition of satisfactory efficiency, and the operation of dilating urethrotomy—already having received much attention, and some practical acceptance, from surgeons in our own country, as well as in various parts of Europe—was now fairly launched into the field of genito-urinary surgery. The approval and the adoption of the operation necessarily implied abandonment of the old views of urethral proportions, and an acceptance of the individuality of the urethra with a normal calibre of from 30 to 40 mm. in circumference, and an average of about 32 mm.

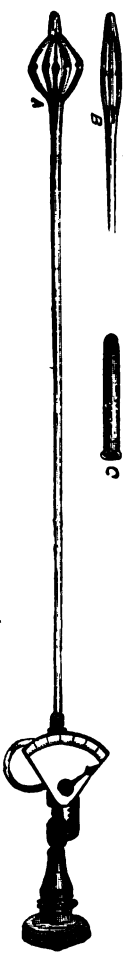
After the experience of another year, with the operation and its results (a report of one hundred tabulated cases, comprising division of 258 strictures, having been presented by me at a meeting of the New York State Medical Society in March, 1875), it was thought not too soon to make a distinct statement of the claims of dilating urethrotomy for precedence over the usual methods of internal urethrotomy for the treatment of urethral stricture; as well as those by divulsion, and (in the greatest majority of cases) over the plans of gradual dilatation. For all strictures anterior to the bulbo-membranous junction I insisted, first, upon a necessity for acquiring knowledge of the normal urethral calibre before any operative measures were instituted, and of the exact locality and size of every stricture in a presenting urethra; second, that there should be an accurate adaptation of surgical procedures to the individual strictures, with intent to remove them through complete sundering at some one point. Claiming this to result (when the division has been completely effected), first, in the complete removal by absorption of strictures so divided; second, greatly diminished total risks of operative measures, as compared with attempts at more or less complete removal of strictures by any other method.

In my first report of one hundred tabulated cases, comprising two hundred and fifty-eight strictures operated on, it was shown that no deaths or grave accidents had occurred, and that in thirty-one re-examined, two over three years, and three over one year after operation, freedom from every trace of stricture was demonstrated. From this fact the possibility of a radical cure of stricture was then asserted. Since that time, March, 1875, the claims which were then squarely and earnestly made in favor of dilating urethrotomy have found full corroboration and steadily increasing favor, so that here to-day there is no necessity of citing specific evidence of its general acceptance by the surgeons of America as a valuable surgical procedure. From what has come to my own personal knowledge, I am led to believe that many hundred operations upon strictures, by dilating urethrotomy, are performed in public hospitals, and also in private practice, in America, every year, and that the favor extended to it is steadily increasing; but, perhaps from the fact that it is no longer a novelty, and that there is but little credit to be gained from statistics which offer no new subjects for contemplation or discussion, the reports of these operations or their results do not find their way into the medical journals. It is because of this and also from the fact that, within the past year, already sixty complete cases of instruments for the scientific diagnosis of stricture, and for the performance of dilating urethrotomy by my method, have been ordered for use at the military posts of the U. S. Army alone; and further, that prominent surgical instrument makers have claimed increasing sales of my instruments to the profession at large; chiefly on these accounts, I have concluded that perhaps some of the results of a studious experience of my own in the use of these instruments might not be unacceptable. Especially has this seemed desirable for those whose previous opportunities have not been favorable for observation and comparison of results by different instruments, or of various modifications in the details of operations and after-treatment, and also who have not had opportunities of testing results after a long period from the date of operation.



Urethrometer with Springs.

In pursuance of this design, I also beg leave, first, to speak of some of the changes and improvements which have been made in instruments for diagnosis of stricture and operations by dilating urethrotomy up to the present time. After much experimentation the urethrometer, which was made originally (1874) with jointed metallic bars, was superseded in great measure, in 1875, by one made with steel springs, which latter had the advantage of giving a better shaped bulb, and could be made 5 or 6 mm. in size less than the former. It proved a very efficient instrument and, when well made, seemed to fulfil all the necessary requirements; but the difficulty of having it well made, especially as to the strength and temper of the springs, and its liability to rust and breakage, proved a source of much annoyance, besides involving much care and expense to keep it in good working order. A little more than a year ago, especially urged by the necessity of having a more enduring instrument for use in the military and naval service, I succeeded, through a competitive contest between the prominent instrument-makers of New York, in having a perfectly satisfactory instrument made, without springs and with a compass of from 18 to 45. This, when well made, lasts for many years, without the necessity for repair.



Original Form of Urethrometer.

Next, in regard to the dilating urethrotome. Since its first presentation to the profession in 1872 this instrument, through continued efforts for increased simplicity in construction and increased directness and accuracy in application, has necessarily undergone many modifications. One of these was fully twelve inches long, and *curved*, with an especial design to securing its more easy adaptation for the division of strictures at or beyond the bulbo-membranous junction. It was soon found, however, that while introduction into the curved portion of the urethra was facilitated, the dilatation by it, thus curved, was unequal, and could not be correctly indicated on the dial, thus rendering it unreliable. And what was a still stronger reason for condemning it, a further experience with dilating urethrotomy proved that division of stricture, by any form of urethrotome, beyond the bulb was unsafe and, in my opinion, distinctly not within the legitimate province of dilating urethrotomy. I have repeatedly condemned this long, curved, dilating urethrotome, in public and in private, to surgeons, students, and instrument-makers, for the last ten years; but in spite of my efforts they continue to be called for, and consequently to be made and sold; for which reason I take this especial opportunity again to condemn utterly this form of dilating urethrotome.

The one, and the only, dilating urethrotome I use and recommend for all operations of dilating urethrotomy is the short, straight instrument which I now exhibit, 8½ inches in length, circumference of shaft 16 mm., and capable of being expanded to 45, with a blade running 2 to 2½ mm. above the groove. I desire here to advise against the use of this delicate instrument as a divulsor, unless much more heavily made. When, in dilating strictures during operation, any undue strain is felt, it should be at once relieved by passing the blade through the stricture, then continuing the dilatation, and if necessary cutting again in a similar way until a dilatation of two or three millimetres may be made without marked resistance, a fact which, as a rule, indicates the complete sundering of the stricture. In cases where there is some uncer-

tainty as to the exact point of binding during the operation, the use of the bulbous sound will define it, saving unnecessarily long incisions. In regard to the locality of the incision, I do not hesitate to reiterate my former opinion in the strongest terms, that it should be always and only superiorly, *i.e.*, on the roof of the urethra, and as nearly as possible exactly in the median line. A more generous vascular distribution in the peri-urethral tissues will account for the fact that hemorrhage is more liable to be severe when the incisions are made inferiorly, and is a sufficient reason why inferior incision should be avoided.

Again, when the tissues are subjected to the tension necessary to secure the complete sundering of more than usually deep or resilient strictures, when the knife is drawn through them, the incision may extend even through the fibrous sheath of the corpus spongiosum, and make an infiltration of urine into the adjacent cellular tissue possible. A number of cases of this, always grave, accident have occurred within my personal knowledge—one within the past year. This case I saw in consultation, on account of unusual hemorrhage, which continued after the operation; much swelling followed, which it was thought might be from blood-extravasation. Two incisions were said to have been made with the dilating urethrotome, one on either side of the urethra, for the division of several strictures. The urine was first drawn by catheter, but during the night following the operation it was passed voluntarily. Increase in the size of the penis was immediately noticed, and when I saw the case it was about two inches or more in diameter, and considerably distorted. Escape of urine into the cellular tissue had evidently taken place.

Immediate free incisions through the integument and superficial fascia, and release of the imprisoned urine, saved extensive sloughing, but when I saw the patient, several weeks after, he had a urinary fistula on the side of his penis, while several prominent points of stricture still remained in the urethra.

In dividing the strictures *superiorly*, and in the median line, the knife, if penetrating to a point beyond the sheath of the corpus spongiosum, comes in contact with the fibrous tissue joining it to the corpora cavernosa, which barrier affords the greatest security against accidents from incision in the median line, but to which deep incisions in all other directions are always liable.

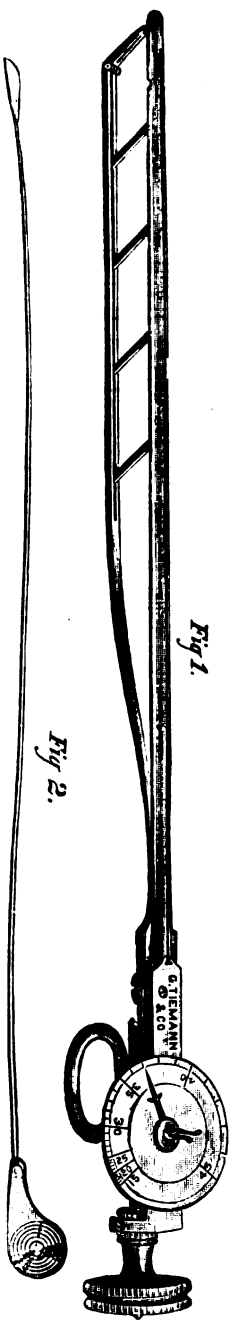



FIG. 1.—Cut of the Author's Improved Urethrometer.
FIG. 2.—Cut of the Curved Urethrometer, condemned as unsafe and otherwise unfit for use.

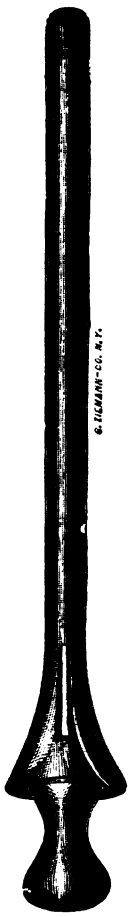
I believe that one important reason why the operation of dilating urethrotomy, in my hands, has been so uniformly successful, and so uniformly free from untoward results, lies in the fact that I always divide the stricture on the superior surface of the urethra, and as nearly as possible in the median line. Up to the present time, as I have stated, dilating urethrotomy has, in my hands, proved an eminently safe operation.

At the meeting of the International Medical Congress, held in London in 1881, I reported six hundred and sixty-four operations of my own without a death, or permanent disability of any sort. My operations since that date will swell that number to more than one thousand, and not only have I never yet had a death resulting, when the dilating urethrotome alone was used, that is, when it was not preceded by the use of the urethrotome of M. Maisonneuve, or its equivalent, but I have never yet seen an abscess, nor an escape of urine into the tissues, nor an attack of pyæmia, follow the operation. I believe another prominent reason for the safety from accidents which has attended my operations will be found in the scrupulous care of instruments, securing absolute cleanliness and asepsis as far as possible, and in the use of all available antiseptic precautions, for patients and instruments, both before and after operation; washing the parts externally with a solution of the bichloride of mercury 1 to 1,000, and using injections of boric acid internally, two or three times a day, until healing is complete; using the catheter for emptying the bladder, for the first few days after operation, whenever it is well borne, chiefly as a preventive of urethral fever; but in certain cases, where the urethra is very sensitive and intolerant of its use, allowing the patient to pass his own urine from the outset. I am a believer in the power of quinine and morphine to prevent urethral fever, in many cases, when contact of urine with freshly made urethral wounds cannot be avoided, and am accustomed, in such cases especially, to administer a suppository composed of ten grains of quinine with one-quarter grain of morphine, immediately after operation.

And now, in regard to the accidents of hemorrhage. When incisions are made beyond three inches, I take the precaution of having the perineal crutch[1] in position immediately after operation, so that, should hemorrhage occur subsequently, the patient can readily bear down upon it, and thus be promptly secured from any leakage back into the bladder. Effective pressure may be made at any desired point anterior, and thus always prevent any considerable loss of blood in any case. In cases where hemorrhage is not completely controlled by temporary pressure, I have found nothing better than the introduction of my hard rubber endoscopic tube, formerly recommended; any necessary counter-pressure being made by bandage. This may remain, if necessary, for two or three days, removing the tube only for cleansing; urination being readily effected or catheter passed, through it, on removal of the obturator. Cases requiring these unusual measures have not occurred, in my experience, in more than one-half of one per cent. of cases operated on. As a rule, to which there are very few exceptions, but slight inflammatory action follows even the most extensive incisions of dilating urethrotomy, although there is, as a rule, a pre-existing more or less acute urethritis in every case operated on; on the contrary, this is usually lessened, and the sensitiveness diminished. There is, however, in some instances where there is much sexual irritability, increased tendency to erection, more or less plastic exudation in the immediate vicinity, resulting in more or less troublesome chordee. The exudation causing this, as in gonorrhœa, usually passes off in a few days, unless the irritation is kept up and increased by some extraneous influence, such as a previously existing acrid discharge, sexual excitement, or too frequent or rude introduction of sounds. In such cases adhesions between the mobile layers of the peri-urethral fascia may occur, which, unless accidentally broken up by strong erections, may remain for weeks and even, in some cases for many months; sometimes a source of great annoyance, but finally passing off completely without any special treatment. In a former account of such cases,[2] I recommended a diagonal incision across the superior wall of the urethra, at the most salient point of incurvation; an operation which, at my hands, met with

[1] See Otis on Stricture of the Urethra, its Radical Cure, p. 283.
[2] Otis on Stricture, pp. 290-291. Putnam's Sons, New York.

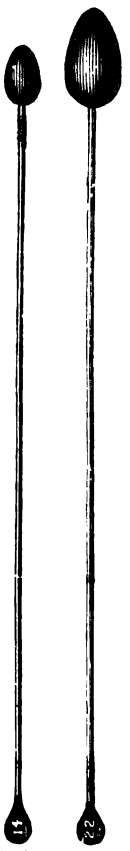
success in several instances. Subsequently, however, I adopted the plan of a mercurial inunction at the point of adhesion, which gave slow but finally satisfactory results. Within the past year, however, I have combined this with systematic, gentle massage, on a short sound, for ten or fifteen minutes daily; always falling short of producing tenderness. The results of this plan have already proved its capacity to remove the most pronounced troubles of this sort within a few weeks. Extension of the penis upon the sound, to as nearly as possible its full length, every day or two after the operation, has seemed to me serviceable in preventing such adhesions.



Author's Endoscopic Tube.

One point in connection with the operation of dilating urethrotomy which has been the source of much discussion and of some animadversion may, perhaps, be briefly considered to advantage at this time. This is in regard to divisions either of congenital or acquired contractions of the meatus urinarius externus. The experience and the study given to this matter, since my early discussion and advocacy of this procedure in 1875, have only confirmed the views then presented. The necessity of repeated passage of sounds of the full normal calibre of the urethra, subsequent to the complete division of stricture, in order to secure a permanent cure, renders enlargement of the orifice to that extent essential. This can rarely be done without unwarrantable violence, except by incision. Contractions at the meatus, congenital or acquired, have been also proven to initiate and prolong gleety discharges, and to be a source of various more or less important reflex difficulty throughout the genito-urinary tract, and not infrequently involving some of the spinal centres. Anything short of a complete division of the contracted orifice, up to the full normal urethral calibre, is usually insufficient to give the desired relief in such cases, and, if skilfully and judiciously performed, the operation is, in my belief, absolutely free from all reasonable objection, with results productive of more prompt, complete, and lasting benefit to the patient, and more satisfaction to the surgeon, than any operation of like gravity in the entire range of surgery.

The charge that has been made against it, that it diminishes the sexual power, I believe my experience with the operation justifies me in asserting, is wholly groundless; the fact being, on the contrary, that, in cases of sexual weakness, strictured meatus I have not infrequently found to be a prominent factor in inducing it, and the judicious division of the contraction one of the most potent measures in its relief or cure. That occasional irregularity of the stream has resulted from unskilful division is true, and that the apparent force of the stream has been diminished, in rare cases, is also quite true. There is no excuse for the former with a fairly skilful surgeon, and in the latter case, when it is remembered that the propelling force is in the bladder, and not in the urethra, it will be seen that such division could only affect the stream slightly, and then only when the propelling power of the bladder was, by a previously existing atony, reduced to the minimum. I have reported a case where the urethral orifice was divided, for the relief of grave reflex troubles, to 40, in a urethra of normal calibre 34, giving complete relief to those troubles, which resisted repeated lesser incisions, and where subsequently the patient (now an eminent medical man) became the father of several children; and with the meatus of this enormous size, he is able to propel his urine in an unbroken steady stream fully three feet. In this connection I would suggest that the dilating urethrotome should, in my opinion, never be used for the division of contractions within half an inch of the orifice, and that incisions for that purpose should be made with a straight blunt-pointed bistoury, and always on the *inferior* aspect or floor of the urethra, except where the meatus is placed so low that it is impossible to get sufficient room for the passage of the proper sized sound without incising the superior also. This for the reason, chiefly, that incisions superiorly in the glans recontract quickly, or, if they do not, absorption of the tissue of the glans may occur in the line of the incision, if at all extensive, which may result possibly in a distinct cleft; in one such case that came under my observation, some years since, giving the appearance of a bifid glans. The enlargement of the orifice should never be made by a sudden, quick stroke of the knife, as it is sometimes the custom of surgeons to do, but under cocaine or ether, very deliberately, and by repeated careful incisions, always downward and exactly in the median line, until by repeated trial with the bulbous sound the precise size required is attained. Should the frænum be in the way, if broad and flat, the incision may be carried through its centre as far as its base; if narrow, it should be snipped away to the same extent. When the meatus is situated too low to allow sufficient room, the surgeon must content himself with an inferior incision that shall not encroach upon the true floor of the canal, and will have to use the urethrometer, or its equivalent, instead of the sound, for keeping the sundered ends of the strictures from uniting until healing of the incision is complete. And now I wish to speak, lastly, of my experience and belief in regard to the permanence of results in dilating urethrotomy; that is, as to the validity of the claims which have been made for the radical cure of stricture of the urethra by this method of treatment. It is not unusual for surgeons to infer that cases treated by various methods, and apparently cured, are really so when they do not return to them for treatment. This proof, however, will not suffice where the radical cure of stricture is claimed.



Author's Bulbous Bougies.

A re-examination, with the bulbous sound, of the full size of the predetermined normal urethral calibre, after many years, will alone give the necessary proof upon which such a claim can be sustained. The acknowledged failure of all methods, except that of dilating urethrotomy, to wholly and permanently remove the stricture-tissue is accepted by those without an ample experience in this, as a sufficient evidence that radical cure of stricture is impossible by any method. Even Sir Henry Thompson says,[1] the more freely he divides stricture the more permanent are the results; that he has never had trouble from cutting stricture too freely, while he has often had occasion to regret having cut too little; and that he has frequently seen cases where relief has continued for years after internal urethrotomy. Yet he says, "I question very much if I have ever seen a case which has been completely cured by any treatment whatever." Under such a weight of testimony adverse to the probability of the radical cure of stricture, proof of facts claiming this for dilating urethrotomy must be full and conclusive. Preliminary to the production of such proof, it may not perhaps be out of place to call attention to the important fact that by no other method than dilating urethrotomy is complete sundering of the stricture at some one point insisted on; that upon the accomplishment of this, whether by means of the dilating urethrotome or by any other instrument, or by repeated operations, possibility of a radical cure

[1] Some Important Points Connected with the Surgery of the Urinary Organs." Student's Edition, 1884.

solely depends; that occasional failure to secure against the return of stricture, after the operation of dilating urethrotomy, does not disprove this position, but simply indicates a miscalculation on the part of the surgeon as to the depth and extent of the incision required, resulting in a failure to completely sunder the stricture. The only exceptions I have met have been very rare, and apparently due to the extension of the stricture-tissue beyond the reach of any incisions which could be safely made. The first really confident claims for the capacity of dilating urethrotomy to bring about the complete and permanent cure of stricture were made in 1875, and were based upon the results of thirty-six re-examinations with the bulbous sound of the full size of the normal urethra, at periods varying from six months to three years after the operation, during which interval no use of sounds had been resorted to. In 31 of these cases, or about eighty per cent., *complete freedom from the former strictured condition was demonstrated*, by the unobstructed passage, to and fro throughout the entire urethra anterior to the bulbo-membranous junction, of a metallic bulbous sound of the full normal size of the urethra, as determined at the time of operation. In a second series, consisting of 136 tabulated cases, presented in 1878, 82 re-examinations were reported; out of which 67 were found entirely free from stricture. In 3 of these cases six years and six months had intervened between the date of operation and the re-examination; in 2 cases, over five years; in 3 cases, over four years; in 10 cases, over three years; in 7 cases, over two years; in 20 cases, over one year; in 10 cases, over six months.

Besides these, 2 cases were reported in the second edition of my work on "Stricture of the Urethra," operated on in 1872 and in 1880 re-examined, and then, over eight years from date of operation, found to be free from stricture. In the first case, five strictures were originally present, the smallest of a calibre of 22 French. In the second, there were also five bands of stricture operated on, the smallest, 16 French. In addition to these cases was one operated on in March, 1875, for four strictures, defined by a bulb of 24 mm. in circumference, in a urethra of normal calibre, 36 French. This case was re-examined in May, 1880, and found completely free from all stricture by the easy passage of a No. 36 bulbous sound—five years from the date of operation, and no sound, bougie, or other instrument of any sort introduced during the interval. Again, in 1881, 2 cases presenting a long interval between operation and re-examination were met; the first seven years, the second eight years. In the first, strictures, four in number, were divided from 27 to 36 French. In the second, there were six strictures, ranging from 24 to 30, which were divided to 38.

Another case, operated on in May, 1871, re-examined in 1883, the longest interval then on record, showed complete cure of stricture by dilating urethrotomy, over twelve years after the date of operation. During the past summer I have had extracted from my case-books, and carefully tabulated, a third series of 420 cases, in which the normal calibre of the urethra, the size, number, and locality of the strictures are recorded, with the results of re-examination in 62 cases.

Recontractions were found to have taken place in 7 cases of strictures situated posterior to one inch, while at or near the meatus recontractions had occurred in 11 cases. I have recently had an opportunity of re-examining the case first operated on by dilating urethrotomy, and for the complete division of whose strictures the dilating urethrotome was originally designed. Extensive stricture was present, which had failed to be permanently relieved by several years of treatment by gradual dilatation. Divulsion with the instruments of both Holt and Vollemier had been practised to the fullest capacity of those instruments, and recontractions, from that point to 24 of the French scale, had taken place, associated, as the chief source of annoyance, with a persistent gleet. By means of the dilating urethrotome the strictures were all divided up to 32 French. Subsequent re-examinations, on several occasions, at intervals of three or four years, were made with the bulbous sound No. 32, without at any time detecting a trace of former stricture, and the gleet disappeared within a few weeks after the operation. No instrument of any sort was introduced for dilatation or any other purpose, except by myself at the intervals just mentioned, for the purpose of examination alone. On the last occasion, May, 1888, Mr. A—— (whose case is fully described in my book on "Stricture of the Male Urethra"), came to me for consultation concerning a difficulty quite independent of stricture, but was induced to permit me to again examine his urethra. I at first introduced, as on previous occasions, a 32 bulbous sound, and was struck with the complete freedom from any holding at any point. I then introduced the urethrometer, turning it up to 34, two millimetres above the previously estimated normal calibre, and found that traction enabled me to draw it out at this size, thus demonstrating in the most perfect manner the complete absence of the former strictures and the radical cure of the case, as shown by entire absence of every trace of stricture fifteen years and ten months from the date of operation.

## THE RELATION OF DUSTY OCCUPATIONS TO PULMONARY PHTHISIS.[1]

By WILLIAM BUCKINGHAM CANFIELD, A.M., M.D.,
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The connection between dusty occupations and pulmonary consumption is a subject by no means new, but it is of especial interest to those who have much to do with diseases of the lungs. The pulmonary diseases caused by the different kinds of dust have received a variety of names, according to the character of the dust inhaled, but collectively they are all covered by the name "pneumonokoniosis." The pathology of these conditions was not clearly understood. They were spoken of as "miner's phthisis," "grinder's phthisis," even when their tuberculous nature could not be proven. Even after Koch's discovery of the tubercle bacillus, and the gradually improved classification of the other classes of lung diseases, there seemed to be some doubt whether these dust diseases were tubercular or not.

Most writers agree that the inhalation of non-tubercular dust can only produce non-tubercular disease of the lungs. Naturally the different kinds of dust, such as sand, coal, soot, slate, etc., when inhaled in large quantities, as by persons enclosed in a thickly laden, crowded atmosphere (unventilated mines, etc.), gradually overcome the action of the ciliated epithelium and penetrate to the alveoli of the lungs, whence they find their way, by their sharp edges, through the wounded epithelium, through the pseudo-stomata in the alveolar wall, or between the cells through the *Kittsubstanz* (Osler). Those that are not carried off, rendered homeless or devoured by the greedy phagocytes, remain in their subepithelial bed and cause an irritation, a determination of blood, inflammation, and resulting hypertrophy of the connective tissue of the lungs. There results then a fibroid condition of the lungs, a fibroid phthisis or chronic interstitial pneumonia.

This condition seems to be produced by all kinds of dust indifferently when inhaled in condensed quantities. Fagge[2] says that this condition is only tubercular when tuberculous matter enters; that the common occurrence of phthisis among miners is due to the crowded and unventilated condition of the mines and to the great heat which the miners must endure. C. J. B. Williams[3] thinks that the fibroid element seems to oppose a direct barrier to the growth and multiplication of the bacillus

[1] Read before the Medical and Chirurgical Faculty of Maryland, at its Ninety-first Annual Session, April 24, 1889.

[2] Fagge: Principles and Practice of Medicine. Philadelphia, Blakiston, 1886, p. 997 ff.

[3] Williams: Pulmonary Consumption. Philadelphia, Blakiston 1887, pp. 13 and 23.

tuberculosis, and in large tracts of lung-tissue which have been converted into this material, often not a bacillus can be detected. Moxon[1] says that when they are found it is because fibrosis has supervened on a tuberculous condition of the lungs. Watson Cheyne,[2] Percy Kidd,[3] Sir Andrew Clark,[4] and others have also failed to find them. According to Orth,[5] consumption is one of the rarest complications of miner's lung, and Kunze,[6] often examining the lungs of those engaged in a variety of dusty occupations, concludes that if tuberculosis is present it is almost an accident, or was present before the patient began this occupation. The most recent literature on this subject may be found in the "Milroy Lectures on Occupations and Trades in Relation to Public Health," by John T. Arlidge, M.D. and B.A., London.

Although a fact founded on one case, perhaps imperfectly reported, may be of little value, I have thought it worth while to relate the following case:

CASE.—J. M——, Welshman, aged fifty-six, was admitted to hospital about February 1, 1888, with the following history, imperfect on account of his want of familiarity with the English language: As a boy he had been well and had been in health up to two years before, in Wales, where he took a "cold," which, growing worse, entirely unfitted him for his work, which was that of a miner. On inquiring more particularly as to his occupation, he said that he had been employed for about fifteen years in the slate-mines of Wales, and that his particular work was to split the slate. He said that there was always slate-dust flying about in the air, but not in such quantities as in coal-mines. Upon questioning him further, he said that the slate-miners were frequently affected with a cough and profuse gray or blackish expectoration, and that they usually died from this cough at about fifty. He said their manner of coughing was very hard, and there was much wheezing and shortness of breath. Inspection showed a spare man, with large chest-cavity, but not barrel-shaped. On percussion, which was carried out with great difficulty, a possibly increased dulness was found over the right apex in front, and at the base behind. The left lung was slightly hyper-resonant from increased work. The vocal fremitus was not markedly different on the two sides. Auscultation gave coarse and fine mucous and dry sonorous and sibilant râles, with expiration and inspiration over the whole chest, the expiration being much prolonged, as in ordinary pulmonary emphysema. Cough and shortness of breath were the troublesome symptoms, as were shown in his anxious expression and in his entire inability to lie in the horizontal position. His expectoration had been dark and also grayish-black, but recently it was white or colorless, as it was when I saw him. In order to promote expectoration I put him on the following mixture:

℞. Ol. terebinthin ..... ʒ iij.
Mucilag. acac. ..... q.s.
Aq. cinnamomi. ..... ℥ ss.
Aquæ ..... q. s. ad ʒ vj.
S.: A tablespoonful well diluted three times a day.

But as it produced nausea I changed to the following:

℞. Ammon. muriat ..... ʒ ss.
Mist. glycyrrhiz. comp. ..... ʒ iv.
M. et adde:
Potass. iodid ..... ʒ iij.
S.: A dessertspoonful well diluted three times a day.

This seemed to remove the mucus, but the dyspnœa still continued, and the râles, though dryer, were just as audible as before. Dr. Fraser's article on "Dyspnœa in Bronchitis"[7] having just appeared, it suggested itself to me to use the nitrite of sodium, which resulted in alleviating much of the dyspnœa. During the whole time the sputum was examined for bits of slate-dust or pigment-laden cells, but they did not seem to be present. His diet was regulated, and his bowels kept open. The urine was tested before the turpentine mixture was given, and albumen was found, but later it disappeared.

A few weeks after he entered hospital the sputum was examined for tubercle bacilli, not because I expected to find them but because I had made it a habit to examine the sputum in every chronic case for them. They were found in abundance. Specimens of sputum were examined with care at short intervals, and the bacilli were always found in large numbers. This surprised me, as I had not thought the affection tuberculous, and had given a favorable prognosis. His family history was good. Now, however, I feared a bad prognosis. Notwithstanding this, he continued to improve under tonics, and returned later to Wales. I have heard from him within the last month, and he says he is entirely well. As I have examined the sputa for bacilli many times, I feel certain that I made no error here, and yet it seems to me rather peculiar in this case.

Dr. G. Hunter Mackenzie[1] says that the number of tubercle bacilli found in the sputa of any case does not seem to bear any reference to the severity of the case, and that a case may go on for years with an enormous number of bacilli found at every examination.

I think the points of interest in this case are:

1. The patient had no previous history of, or predisposition to, pulmonary tuberculosis.
2. He contracted a disease with which tuberculosis is supposed to be very rarely present.
3. He had tubercle bacilli in abundance in his sputa.
4. He reports himself entirely well.

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[1] Williams: Loc. cit.
[2] Practitioner, April, 1883.
[3] Medico-Chirurgical Transactions, vol. lxviii.
[4] Clinical Transactions, vol. i.
[5] Lehrbuch der spec. path. Anatomie. Berlin, 1887, s. 549.
[6] Beitrag zur Lehre der Staubsinhalations Krankheiten. Kiel, 1887.
[7] American Journal of the Medical Sciences, October, 1887.

## SULPHONAL: ITS DOSAGE AND EFFECTS.

BY A. G. BROWNING, M.D.,
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WITH the first introduction of this hypnotic I made some haste to procure it, having at the time an exceptional case which did not just respond to chloral, paraldehyde, the bromides, or others of its class. Since, have used it rather perseveringly, and, frankly, more to account for its erratic action—to ascertain, if possible, its fitting place, than from any real satisfaction with its behavior in any given case. I beg to cite:

CASE I.—Aged forty; plethoric; a *bon vivant* and paroxysmal *spreer;* plagued with insomnia and on the verge of delirium; no hypnotic would quite suit. Accepting positive assurances that sulphonal was absolutely harmless, I yet made my first dose only ten grains, repeating this every hour until forty grains were given. Net result within twenty-four hours—a fidgety, wakeful night, worse than before, with giddiness, nausea, and general wretchedness all the following day; "cuss words" for drug and doctor—a failure.

The following evening, at eight o'clock, gave aggregate of previous doses—forty grains—in one portion. For four hours he carried it off lightly, as if only so much flour; but at twelve he talked wildly, had tremors, finally becoming so ugly as to compel some restraint. Now gave fifteen grains sulphonal. Uproar continued till five next morning, when he dropped to sleep.

Called at 10 A.M.—Still sleeping profoundly—just how much so, did not care to test by disturbing him; wanted him to sleep.

Recalled at 3 P.M. Friends much alarmed. Patient could be aroused, but somewhat incoherent, and promptly lapsed into stupor; cyanosed, and some stertor; with help, came slowly around, but was confused, dizzy, and generally uncomfortable for two or three days—all the time sleepy and dull.

[1] Edinburgh Medical Journal, January, 1889.

At the time I knew nothing of the postponed action of sulphonal—nothing of its action in any way; but coming early or late, it was unsatisfactory. I agreed with patient when saying he would take no more.

Case II.—Young man, aged eighteen; feeble development, and anæmic always; troublesome insomnia; couldn't tolerate taste and odor of paraldehyde; afraid of chloral; bromides did not suit. Gave twenty grains sulphonal and, two hours later, twenty grains more; no effects, early or remote. Got forty grains early next evening; after four hours there was excitement, which by twelve midnight bordered upon delirium, with delusions, and what I regarded as peculiar, harassing and tormenting *priapism*. No sleep worthy the name during night or on following day, but instead, a condition of lethargy, with frontal headache, vertigo, muscular inco-ordination, mental depression. Patient described the situation as, "Beastly! infernal! Half-dead for sleep—all the time half-asleep, but never quite!" Wasn't himself for five or six days.

Case III.—Gentleman, aged forty-two; fairly healthy, but strung on wire; wanted the earth, and that in a day; did brain-work over midnight oil; broke down; got insomnia and all that comes of it; was neurasthenic. To prop his flagging energies he took some whiskey daily, and more beer; was an habitual but "genteel" drinker before suspecting it, or being suspected. The more he drank the less he ate, till, his starved nerves taking on a neuralgia, he was something of a wreck. I aimed to tonify him by the usual means—some physic, more food, less drink. In view of alcoholic factor, and to avoid other habit, put him on bromides and cannabis, which did very well. But he clamored for more, and I gave him sulphonal, thirty grains first night; negative results. Following night he got forty grains; in two hours, fifteen grains more. The night was passed in a prolonged wail for sleep—faithfully wooed, but never won! The ensuing day he was too depressed and confused for attention to affairs; his gait was staggering as if drunk; he had nausea, vertigo, and frontal headache.

Two weeks later, under protest, he took fifteen grains, repeated in an hour; the next night the same. It gave refreshing sleep, and he was charmed. The third venture was followed by the original trouble, intensified, and he would have no more of it.

Case IV.—Colored girl, aged seventeen; uncertain quantity, mentally and physically; had, from history, rung all the changes of hysteroidal trouble, from insomnia to delirium and mania, and back again. Had been a circulating medium from doctor to doctress—vicarious of the whole troublesome genus, coming my way in due course, or in obedience to the "fitness of things." Insomnia to the front, with lurking movements which looked to me choreic. Was generously asked to do what man had not yet done—make her sleep! The ground was pre-empted: she had taken every created thing save sulphonal. I directed twenty grains, and repeat in an hour. No one could tell me what she did; she did *not* sleep! Next evening, in a moment of humane weakness, I gave forty grains; in two hours, fifteen more. Visited her next morning; again, she hadn't slept, but was writhing, twisting, and grimacing with chorea, after most approved fashion.

Odds were against me in an impending riot, the wrath-centre being in my vicinity; discretion seemed all there was of valor, and I retreated in good order, under a vigorous charge of having given this girl "fits!" Maybe I did; was coming to think sulphonal could do anything, save putting a patient quietly to sleep. Later there was a reaction in sentiment, and I had satisfaction of seeing this patient get well while I was giving her bromides and arsenic. A pleasing coincidence, under the bellicose circumstances.

The four cases here cited will be seen to cover the differing conditions of plethora, anæmia, neurasthenia, and hysteria, pure and simple. The primary object in all was to induce sleep. Failing in this, the question presents, in how far did opposing conditions affect results? Or, favoring conditions ascertained, how estimate the dose in an individual case? I cannot answer this; the action of sulphonal has been, with me, so erratic as to leave no base for logical deduction; much like Hercules with his club, striking in the dark. This is not the total of my experience in its use, but *is* the average of results obtained. I find it uncertain in action in same individual, in same or differing doses, with no recognized condition clearly indicating or contra-indicating its use, as yet.

It would not be fair to say I have never gotten good results from sulphonal; it is only true that I have been most times disappointed. Together with its delayed action, and too frequent unpleasant secondary effects, I do not find it comparable, as a hypnotic, to chloral or paraldehyde; have had less experience with amylene hydrate. Possibly, when the place for sulphonal is found, sulphonal will be found to fill the place.

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## CHRONIC LYMPHATIC ŒDEMA OF THE UPPER LIP, COINCIDENT WITH INTRANASAL PRESSURE.

By JONATHAN WRIGHT, M.D.,
NEW YORK.

In The Medical Record of September 8, 1888, I called attention to a train of symptoms caused by the firm pressure of the middle turbinated bones against the septum. A few weeks previous to this an article by Dr. Roe, of Rochester, dealt with the same subject. As far as I know, Dr. Harrison Allen, of Philadelphia, was the first to discuss the subject, and his paper in the *The American Journal of the Medical Sciences* for 1880 was overlooked by me until my attention was drawn to it. In these and other articles various symptoms—neuralgic, reflex, and obstructive—are mentioned. Since the appearance of my contribution I have seen a very curious, and, I presume, a very rare sequence of the pathological condition referred to. The case, I think, deserves recording.

Lizzie C——, aged fifteen, was referred to me at the Demilt Dispensary, by Dr. G. T. Elliot, for a large diffused swelling of the upper lip and left cheek. The patient was otherwise perfectly healthy, and her previous and family histories were good. When seven years of age she fell and cut the upper lip, which remained swollen for three months, when it subsided. Four years ago, when she was eleven years old, the lip began to swell again, and a month later she noticed some nasal obstruction, at times, on both sides. She was also troubled a good deal with toothache. In two or three months the lip had reached the dimensions which it presented on her application to the dispensary, having never abated nor increased during the four years. She had derived no benefit from the use of ointments. There had never been any pain or tenderness to pressure.

On examination it was evident that the upper lip was two or three times its normal size. It projected far out over the under lip, producing a marked deformity. The skin was smooth, somewhat tense, and had a natural color, except that on handling it easily became red. There was no pitting on pressure, nor was the blood-circulation apparently interfered with. The enlargement extended markedly to the left cheek, but very little to the right. An intranasal examination showed that the left nasal fossa was enlarged, and the septum deviated considerably to the right. The mucous membrane was atrophied in many places. The middle turbinated bone on the left side was displaced upward and inward against the septum, and along its free border there was a muco-purulent discharge. As the crown of the first molar tooth was decayed and gave evidence of defect at the root, I surmised that the trouble might be an empyema of the maxillary sinus. This afterward proved to be incorrect. She was given an alkaline nose-wash to use three or four times daily. At the end of a week she came back with some diminution

of the lip swelling, and the nasal cavity presented a better opportunity for observation. There was no more mucopurulent discharge. Far back and high up, the middle turbinated bone was seen impinging on the septum at about the junction of the middle with the posterior third, both ends of the bone being free. As it at first seemed a simple hypertrophy of the soft parts, the patient was directed to continue the alkaline douching. At the end of another week there was still further diminution of the lip and cheek swelling, and the hypertrophy of the mucous membrane had decreased somewhat, but it was evident that it would be necessary to remove the remaining portion by surgical interference. This was accordingly done with a nasal snare, and the fragment, as large as, and about the shape of the pulp of the middle finger, proved to be a hyperplasia of the mucous membrane. The douching was continued, and at the end of another week the lip and cheek had reached almost their natural outlines. At the seat of the former operation there was, however, a bony excrescence, the soft parts only having been removed. Judging that when this became recovered with mucous membrane the intranasal pressure would be renewed, the bony growth was removed by means of the snare and forceps. A microscopic examination showed hyperplasia of bone combined with rarefying osteitis.

This may serve as an illustration of how the bony cysts are formed which we occasionally observe in the turbinated bones, and which are described by Zuckerkandl. The hyperplasia of bone having advanced to considerable dimensions, a rarefying osteitis begins in the centre, and we soon have a cavity with rigid bony walls.

Six weeks or a month after the operation, when some thickening of the lip still remained, but luckily after the intranasal wound had healed, the patient was attacked with facial erysipelas, which spread all over the face and into the scalp, having begun in the region of the molar prominences. When this had subsided, which it did without intranasal treatment, it was seen that the lip was smaller than before. It is now five months since the operation, and, generally, the size of the lip is not noticeable, but occasionally is seen to be much larger than usual, though it never reaches its former proportions. The swelling of the left cheek has not recurred. The middle turbinated bone on the left side is free throughout its whole length, very little deformity having resulted from the cicatrization following the operation. The mucous membrane has a healthier look, and the nasal secretion is much less than formerly.

When we come to consider the nature and the cause of the long-standing labial hypertrophy in this case, we are confronted by the meagreness of the literature on the subject. For want of a better name I have called it chronic lymphatic œdema. Although it is probably of an entirely different nature, its essentially local character resembles somewhat the cases of circumscribed œdema described first by Dinkelaker[1] and Quincke,[2] and later by Jamieson,[3] Graham,[4] Matas,[5] Osler,[6] Smith,[7] and others. Their cases were acute, resembling urticaria somewhat. In most of the descriptions the doughy feeling of the skin and its transparent, watery look are spoken of. Their cases had a neurotic element, and the swellings occurred more often in the extremities, and were usually not confined to one region of the body.

More nearly resembling it were the cases reported by Major[8] at the last meeting of the American Laryngological Association. I regret that I have as yet seen only an incomplete report of Dr. Major's paper. They were erythematous and erysipelatous in character, and extended over comparatively short periods. They seemed to depend on intranasal pressure, and treatment directed to the nose relieved them. Other gentlemen present narrated similar cases. To one of these categories belongs a case of which I have preserved short notes.

A boy, aged fourteen years, employed at the time in Roosevelt Hospital, said that his father had died of erysipelas or gangrene. He himself had always been perfectly healthy until about eighteen months ago. At that time his nose began to swell occasionally, beginning at the tip and extending as far back as the bridge. This would last for two or three days and then disappear. His nose was often obstructed, but he thought that this had no relation with the external swelling. He was never troubled in summer, but in the winter it would occur every week or ten days. There never was any pain or constitutional disturbances with it. He has never had erysipelas nor rheumatism, although a medical man once pronounced the nasal affection erysipelas. Ointments always gave him relief (?). There was no itching. The nose looked red and hot, and there was considerable lachrymal congestion. The upper lip was slightly swollen. There was some hypertrophy of the mucous membrane, covering the turbinated bones, but no intranasal pressure; the rhinitis, being slight, had produced no extensive structural change. Intranasal treatment seemed to have little or no effect on the external condition, which lasted but a short time. This patient had later an attack of true erysipelas, from which he recovered, but since then I have lost track of him.

Dr. H. Lavrand[1] has reported a case of frequently recurring facial erysipelas, in a case of Tornwaldt's disease, which was cured by treatment directed to the post-nasal affection. I have seen a case of general dermatitis of the nose associated with nasal polypi and hypertrophic rhinitis, and also several cases of acne in the nasal and malar regions which were cured or greatly benefited by intranasal treatment.

It seems to me evident that in many of these cases the lymphatics must be the channel of communication between the external and the internal affections.

In the case of Lizzie C——, I see no other explanation. There was no neurotic element in the case, and erysipelas only occurred after the relief of the intranasal pressure. The anastomoses of the lymph-channels seem so complete that it is difficult to understand how pressure at any one point, or even over a larger area, could cause engorgement at a distant point. The little that is known about the nasal lymphatics does not help us very much. Simon,[2] in 1859, found that they formed a wonderfully close net-work of vessels, more abundant in the region of the cribrous plate of the ethmoid. They all communicate with those of the external wall, and form a very close network there in three places, viz.:

1. At the top of the superior turbinated bone.
2. Upon the external surface of the middle turbinated bone.
3. In the space anterior to this.

He, as well as Axel Key and Retzius, traced communications with the lymphatics of the subdural and arachnoid spaces. Communicating with the lymphatics of the face they enter glands in the neighborhood of the angle of the jaw—the deep carotid and cervical. Internally they terminate in trunks which pass close to the openings of the Eustachian tubes to join glands on the lateral wall of the pharynx (Quain, Gray, M. McKenzie). Clinically we have an illustration of the absorbing power of the lymphatics in the rapidly fatal course of nasal diphtheria.

While it will be noted that the pressure in the case reported was in the neighborhood of the lymphatic nidus spoken of by Simon, the abundant collateral supply would seem amply sufficient to prevent any local congestion outside of the nose, and yet the onset, course, and subsidence of the external swelling corresponded so closely with the

[1] Dinkelaker: Ueber acutes Oedem. Inaug. Dis. Kiel, 1882.
[2] Quincke: Monatshefte für prakt. Dermatologie, No. 5, 1882.
[3] Jamieson: Edinburgh Med. Journal, June, 1883.
[4] Graham: Canadian Practitioner, 1885.
[5] New Orleans Medical Journal, October, 1887.
[6] Osler: American Journal of the Med. Sciences, April, 1888.
[7] Smith: Medical News, March 23, 1889.
[8] Major: Medical News, June 8, 1889.

[1] Lavrand: Journ. des Sciences médicales de Lille, April 27, 1888. Ref.: La Revue de Laryngologie, etc., May 1, 1889.
[2] Simon: Schmidt's Jahrbücher, Band cvii., p. 161.

history of the intranasal pressure that it seems more than probable the latter was the prime factor. In nearly all the cases referred to there seemed to be some more or less definite connection with erysipelas.

## Clinical Department.

### A CASE OF CYSTIC GOITRE.

By GEORGE T. WELCH, M D.,

KEYPORT, N. J.

GOITRE is looked upon without much fear in the United States, so far as any tendency toward mortality is associated with it, and special operations are seldom required for its relief; but an occasional fatal termination awakens a vivid interest in the mind of the practitioner in all the known methods of combating and eradicating the disease. Excision of the thyroid gland is a proceeding so formidable that few surgeons have had the courage to undertake it, and in view of the probable advance of goitre from a benign to a malignant growth, the physician should prescribe, and insist upon the patient's carrying out, all the known alterative means at his command while the tumor is yet small and tractable.

After remaining stationary for a quarter of a century a goitre will at times suddenly take on a savage energy of growth, and the victim, long lulled into security, will awake to find his passive enemy now become as relentless as any Thug in India. Such a case recently came under my notice in the person of Mrs. C. W——, aged sixty-three, who consulted me in October, 1888, in regard to labored respiration, cough, and attacks of extreme nervous exhaustion. Her description of the symptoms attending these attacks was so similar to those of reflex asthma that I was inclined to call it by that name until I could discover the exciting cause. The patient was apprehensive that a goitre which she had might be the origin of the attacks, but as it had remained stationary in size since its development, more than a quarter of a century before, during her first pregnancy, I could not feel sure that this was the case. The tumor did not feel sufficiently fibrous and fixed to give the impression that it was of a malignant character, or that it was grasping the windpipe and producing stenosis. An examination with the laryngoscope was, however, unsatisfactory, and left me in doubt. A measurement of the circumference of the throat over the goitre was taken, and the patient was placed on a tonic and nervine treatment, with inunctions of compound iodine ointment over the surface of the tumor. She showed signs of improvement for a short time, but the next attack of dyspnœa was still more pronounced and alarming.

Thereafter the voice was either whispering, or hoarse and croaking in character, and evidently the pneumogastric nerve was encroached upon. Measurements taken from time to time showed increasing size of the goitre, the attacks of dyspnœa became more frequent, and at times death seemed imminent. On two occasions large amounts of atropine, $\frac{1}{100}$ gr. used hypodermically, alone rescued the patient, who appeared moribund at the time of the injections, but who slowly revived as the blood came flaming to the surface.

Of all external applications I was convinced the use of the ointment of the red iodide of mercury was most satisfactory. After several days' inunction with this, I discovered an obscure sense of compressibility, and with the hope of finding that a cystic goitre had been developed, I thrust a hypodermic needle straight into the tumor and drew out a few drops of dark-colored liquid which confirmed this view.

I determined now to operate on the goitre after the method of Mackenzie, and had made a small trocar and cannula with a collar to which tapes could be tied. Kindly assisted by Dr. Cook, of Holmdel, I thrust the trocar from below upward into the mass, after incising the skin, and withdrawing it, left the cannula in position, tying the tapes firmly at the back of the neck. About two ounces of grumous fluid escaped and the tumor collapsed somewhat, although the outer wall was quite thick. Two drachms of the solution of perchloride of iron were now thrown into the sac with a syringe, and the cannula was plugged up. After three days the stopper was removed, and the contents of the sac allowed to escape. I now found that the tumor remained enlarged upon each side, and conjecturing that it was multilocular, I introduced a blunt probe and broke down the walls, causing a further flow of dark fluid, when the injection of the iron solution was again used. At different times thereafter this had to be repeated, the sac filling up with liquid to its original size, but finally a complete cure was effected.

The patient remained weak for a time, but gradually improved in strength and spirits, and finally went to her home, twelve miles distant, early in January. There had remained some cough, of a spasmodic character, and examination of the throat with a laryngoscope now showed stenosis of the larynx, and led me to suspect further dangerous complications, which the sequel unhappily demonstrated; for, after four weeks of comparative comfort, the dyspnœa again took on a dangerous character, hectic supervened, the heart showed signs of failure, while, the cough and strangling efforts at expectoration became frightful to behold. All drugs were perfectly powerless to control the paroxysms, except chloroform and nitrite of amyl. Inhalations of cocaine, steam, etc., were tried in vain, while dressings of hot water or poultices were frantically torn away by the patient. Occasionally the happiest effect would be produced for a few hours by hypodermics of atropia, but the dryness of the mucous membrane of the throat which supervened would increase the suffocation.

The singular sound in breathing, together with the character of the product expectorated; the inflammatory swelling, recognized by the fitful glimpses to be had with the laryngoscope; the pain, cough, dyspnœa, dysphonia, and dysphagia concurred in pointing to necrosis of the cartilages of the larynx, and the prognosis was entirely hopeless. On the night of February 18th, after informing the family and husband that the end was in all probability near, and that nothing further could be done except tracheotomy, which might add to the days of suffering but could not cure the disease, I made an effort, after spraying the throat with cocaine solution, to lance what appeared to be an abscess in the larynx, but the most heroic efforts of the patient could not control the spasmodic cough long enough for me to succeed. I then tried to reach the part with a slender sponge probang dipped in a solution of chromic acid, and was rewarded by finding the patient breathed easier, and I retired about 11 P.M. with the intention of performing tracheotomy next day, should it seem called for; but shortly after midnight on February 19, 1889, the patient died peacefully in her sleep.

It is possible that early efforts at a cure of this goitre might have been entirely successful, but the physician whom this lady consulted eighteen years before recommended a do-nothing policy, and assured his patient that nothing would ever come of the goitre.

### SOME SUGGESTIONS IN REGARD TO TREATING GONORRHŒA.

By E. P. RICE, M.D.,

CHICAGO, ILL.

A GREAT variety of methods for treating gonorrhœa can be found in the very many text-books at our command, yet the average practitioner has not, as a rule, any very definite plan, not having given the subject generally any special attention. Among the thousands of readers of THE MEDICAL RECORD we will find undoubtedly an almost numberless variety of formulas in use; and, in view

of these facts, permit me to make a few statements in regard to the treatment of this very common disease, which may be the means of inducing others to try this plan. My attention was called to it, some three years ago, by a few remarks from a practitioner in Wisconsin, which appeared in THE RECORD. I thought favorably of the plan, and will give the *modus operandi* as I use it.

First, taking for granted that gonorrhœa is due to the action of a specific microbe, the gonococcus, we must treat it on the antiseptic plan, hence the following line of treatment. The patient should be placed in the recumbent position, and after lubricating an ordinary soft-rubber catheter with five per cent. carbolized oil, introduce it as far as the prostatic portion of the urethra. In acute cases it may be necessary to inject a little five per cent. solution of muriate of cocaine, if pain is produced. Now insert into the free end of the catheter an ordinary glass syringe, having a nozzle with an opening sufficiently large to allow the liquid to pass through easily, which will be about the consistence of an ordinary emulsion, and should be made as follows:

℞. Acid. boric..... ʒ iij.
Glycerini..... ..... ℥ j.
Mix, and rub well together, and shake well before using.

Pour about two drachms of this mixture into the syringe, having previously withdrawn the plunger. Now, gently insert the plunger, and force the liquid into the catheter, which is held in place with the thumb and forefinger of the left hand—the forefinger of the right hand should be used to force in the plunger. After all the liquid has passed out, gently withdraw the catheter, stripping it at the same time in order to force all the liquid into the urethra. Let the patient remain in the recumbent position for ten minutes longer, the whole operation lasting generally about fifteen or twenty minutes. This treatment should be repeated every day, for the first two or three days, and then on each alternate day. As a rule, in acute attacks, five or six treatments will suffice. In long-standing cases the same treatment should be used, alternating with some mild astringent injection, as Lloyd's hydrastes, used in the same way. The sound should always be used in subacute and chronic cases, at intervals of about three days. It is also advisable to give internally, in all cases, a saline laxative, and in the old cases I generally give, in addition, capsules of bal. copaibii, ♏ vj.; ol. cubebæ, ♏ iv., t.i.d., either before or after meals.

The fact of antisepsis should never be lost sight of, as so many are apt to do. It is a well-known fact that boric or boracic acid is a mild and unirritating antiseptic which, when combined with glycerine as a vehicle, also an antiseptic, renders it a very safe agent to use for this purpose.

One important point is also gained in this plan. We always have the patient practically under control, and can watch the progress made, not being dependent upon the say-so of the patient. I have used this method of treatment in quite a number of cases, with the very best results, and can unhesitatingly recommend it to the profession.

## PNEUMONIA TREATED WITH PEROXIDE OF HYDROGEN.

BY J. L. GREENE, M.D.,

RED CLIFF, COL.

ABOUT a year ago, after some study of the action of peroxide of hydrogen, it occurred to me that it might be well employed in treating the "high line," or congestive, and the croupous, or acute lobar pneumonias which prevail and are often very fatal in the Rocky Mountain region. Out of twenty-three cases treated by me since that time there have been twenty-two recoveries and one death. The death was in the case of a puny infant, eleven weeks old, and so far gone when first seen that any treatment whatever could avail but little. These cases comprise some with double pneumonia, some persons of robust habit, some with constitutions impaired by long intemperate use of alcoholic liquors, and several children ranging in age from three months to three years.

The main treatment has been the internal use of peroxide of hydrogen, though I have used any rational measures that were indicated to meet complications, or unusual conditions arising in any case. I have had but little use for either opiates or antipyretics.

The dosage mentioned in the rather scanty literature on the subject, as applicable to other classes of cases—teaspoonful three times a day—is far too light for pneumonia. In the high line, or congestive form, common enough at high altitudes, the patient would exhaust the effect of the first dose and die from apnœa before the second would be due. I have often given one-fourth to one-half a teaspoonful, well diluted with water, once in five to ten minutes for an hour or more, with good results. In acute lobar pneumonia I usually give half a teaspoonful, diluted, every hour, with benefit, even when no emergent conditions exist, and I continue it till after the crisis occurs. I am not aware that any one else has made a systematic use of peroxide of hydrogen in such cases, and I have had to feel my way in establishing a dosage adapted to my cases, which are possibly considerably influenced by peculiar conditions of climate and altitude.

Under this treatment the crisis appears to be a time of comparatively small importance, and a case taken early in the stage of engorgement can usually be aborted and the infiltration cleared from the lung.

I do not apprehend that these few cases will go far toward establishing anything; but if the method of treatment I have used, and outlined here, proves valuable in other hands I shall be satisfied.

## SEVERE SYMPTOMS RESULTING FROM AN APPARENTLY TRIVIAL INJURY.

DR. J. J. BOONE, of Mount Victory, O., reports the following case: "Elihu J—— had sustained an injury by running a small splinter of wood into the thumb, about half an inch from the end, on the flexor surface. On the following day, as it was giving him some pain, his medical attendant proposed to cut it out for him, which was agreed to by the patient, and he worked hard for about one hour to extract the splinter, though I do not know whether he got it out then or not. The case was placed in my hands from the fact that the patient's medical attendant had gone out of town, not to be back for a few days. On February 3d, the first time I had seen him during his sickness, and two weeks after the accident, his temperature was 103½° F., pulse 125, and he was so weak that he could not stand up, and could sit up only with great exertion, and was suffering great pain, with a tightly swollen forearm, hand, and fingers. Pus was discharging from the wound in the thumb. I dissected off the epidermis of the thumb, as under it was a layer of thick, greenish pus; then with an ordinary Davidson syringe, stretching a piece of one-eighth inch rubber tubing about eight inches long over the nozzle, I proceeded to wash out the abscess cavity in the thumb with a 1 to 2,000 bichloride-of-mercury solution, when I discovered a greenish-black spot, the size of a silver five-cent piece, between the distal ends of the metacarpal bones of the little and ring finger, on the extensor surface. I picked it up with a pair of forceps and cut it out without pain to patient; then, on use of syringe, I was enabled to inject the solution of mercuric chloride into the tissues of the thumb and have it come out where I had removed the piece of dead skin, carrying with it a large quantity of pus. The next morning I discovered another abscess between the distal ends of the metacarpal bones of the index and middle finger, on the extensor surface, which I opened, using the same solution as before. The solution was ejected from both new openings. In the evening I examined the arm carefully, and found evidence of an abscess midway between the wrist and elbow. Cutting in about

half an inch with a curved pointed bistoury, I was enabled to evacuate about four ounces of greenish-yellow pus; again washing out through the thumb, the solution came out through all three openings, carrying with it a large quantity of pus. Under the treatment of frequent cleansing with a solution of mercuric chloride about three times a day, in five days the swelling had almost gone, and the patient made a good recovery, although there is some stiffness in the fingers yet."

## Progress of Medical Science.

CONFLUENT SMALL-POX TREATED SUCCESSFULLY WITH SALICYLIC ACID.—In March, 1881, the *Bulletin de Thérapeutique* published an article in regard to the use of salicylate of soda in the treatment of variola. In the same journal of May 15, 1889, Dr. Baudon reports a case in which he made use of the same treatment (modified to suit the case) which he had formerly, in 1881, used so successfully. The patient, a woman, aged twenty-five, was supposed to have been vaccinated in early infancy, but no scar could be found. She had assisted at the burial of her two brothers, who died of variola, and after returning home she suffered from the prodromata of this disease. On April 4th the eruption appeared, and it quickly became confluent. The face became red, enormously swollen, and covered with pustules, which were everywhere confluent. Over the surface of the body, although more discrete, they were still large and numerous. He adopted the following treatment: Three times a day the face, limbs, and chest were to be covered with a pomade of one part of salicylic acid to twenty-five parts of vaseline. A powder of talc, one part; salicylic acid, twenty-five parts, to be then dusted upon the parts. Four grains of quinine to be given three times a day. Borated gargles for the throat. Milk was given as needed. The discharges were covered with quick-lime and buried. The soiled clothing was put into boiling water. The other occupants of the lodging-house were vaccinated and sent away. The body of the patient exhaled *no odor at all*, and, notwithstanding the severity of the eruption, the patient was almost free from suffering. On the 7th, delirium, of some hours' duration, set in. The swelling gradually subsided, and on the 12th he scraped carefully away the coating which had until then covered the parts, and found the skin smooth, without the least trace of cicatrix, supple, elastic, a little more red than normal, but entirely free from scabs. Recovery was complete, without any accompanying accidents, without those repulsive exhalations which make small-pox patients so disgusting and such dangerous sources of infection. This case is related by Dr. Baudon in a simple way, with the hope that it will prove useful. He believes that the treatment is rational, and that those who try it will find it a great comfort, if only in preventing the foul odors of the diseased body.

NEPHRITIS AS A SEQUEL OF WHOOPING-COUGH.—Dr. Mircoli, of Monterubbiano, has lately called attention to the occurrence of nephritis as a sequela of whooping-cough. In 1887, among ten children who suffered from the disease, the attack was followed in two by nephritis, which proved fatal in one of them. The necropsy left no doubt as to the existence of nephritis. In 1888, among thirty-five cases of whooping-cough, Dr. Mircoli met with nephritis in four; two of these died, and in one of them a post-mortem examination was made. The kidneys were seen with the microscope to show severe parenchymatous nephritis. No cultivation experiments could be made to determine whether the disease was parasitic or not. The microscope showed no trace of micro-organisms.—*British Medical Journal.*

SPLENIC MURMURS.—In a recent paper, Professor Bouchard drew attention to the existence of a bruit over the region of the spleen in cases of enlargement of this organ —a bruit not attributable to pressure upon vessels or to conduction from the heart, but apparently generated in the splenic artery or in the spleen itself. During the past three years he has constantly practised auscultation of the spleen, and on five occasions has detected such a bruit. Three times the splenic enlargement was due to cirrhosis of the liver; in one case the spleen was hypertrophied, as in leukæmia, but the blood was not altered; and in the other the swollen spleen was associated with a large liver in an obese subject. In several cases—notably in malarial spleen and in one marked case of leukæmia—no bruit was to be detected. He entered into details of his first case—one of cirrhosis of the liver—in which the spleen was very large, measuring seventeen by eleven centimetres (about 6.3 by 3.9 inches), and was hard and smooth. Over its whole area there was audible a soft, prolonged bruit, synchronous with the pulse, but the bruit could not be traced beyond the splenic region. It was still audible when the patient was made to lie on the left side, to prevent the organ exercising any pressure upon the abdominal vessels. The bruit was audible whenever the patient was examined during the three years the patient was under observation. The case was otherwise interesting as an example of "cured cirrhosis," upon which the chief discussion took place. There had been considerable ascites, which required paracentesis on three occasions; but Professor Bouchard attributed the arrest of the disease to the prolonged administration of calomel in small doses. The patient also had an attack of uræmia, which was successfully treated by naphthol, on the theory of intestinal antisepsis being needed to limit the operation of auto-intoxication in the production of the uræmia.—*The Lancet.*

THE WAYS AND WANDERINGS OF THE CONTAGION OF SYPHILIS.—Lang believes that at the time of the infection with syphilis a cell infiltration takes place which forms a wall of isolation between the diseased centre and the sound parts in the neighborhood. A part of the syphilitic poison is thus rendered harmless, while the rest gains access into the system either by means of the lymph-cells into the lymphatics, or directly into the blood-vessels. If by the former way, the syphilitic infection will take place gradually; if by the latter, at once. Another way of infection is by what he calls regionary infection, by which is meant that the poison is carried into the regions in the neighborhood of the original focus through the interstices of the tissues, and there gives occasion to the formation of papules. The frequent infection of the rectum in women is, in most cases, due to the regionary infection from the primarily infected genitals. Another manner of the spreading of syphilis is the "post-initial infection," in which, on a region distant from the initial lesion, another initial manifestation appears, as on the lip from a genital chancre. An initial lesion with intact epithelium can only spread by way of the lymph-channels and tissue-spaces, while an ulcerated initial lesion permits all possible ways of infection. A part of the syphilitic contagion will be destroyed in the blood, a part got rid of by the excretory organs, and the rest can give rise to irritative processes, while some may remain for years quiescent, then to give rise to gummatous formations. During these years the poison must have undergone important modifications, as it is not infectious in the gummatous stage. The poison sometimes remains fixed in a certain organ without impairing the functions of the organ.—*The New York Medical Journal.*

PHYSICIANS IN THE CIVIL SERVICE.—The Government offices at Washington are fairly overflooded with retired M.D.'s, most of whom are working for a mere song, whose melody, however, is more voluminous than the clink of the scattering dollars that were wont to jingle into their coffers while they were still practising physicians. The young doctor assuredly traverses a hard road, but there are prizes to be won by him who pegs it out to the end.—*Philadelphia Record.*

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## A PHYSICIAN'S STUDY OF POVERTY AND ITS CAUSES.

No class of men come into such close and constant relations with the poor as physicians. It might be expected that they should be able to contribute something of value to the subject of poverty, and its social causes. This, in fact, physicians have done. In the June number of *The Forum*, Dr. H. D. Chapin has contributed an interesting and suggestive article on the subject. We doubt not that students of sociology will find in it more of immediate practical value than in learned treatises on single-tax or co-operative commonwealths. Our world-betterers have two duties before them, one to remove immediate distress and its causes as far as possible, the other to encourage the adoption of some social system which shall eliminate as far as possible poverty and misery. The prophets of new dispensations have their uses, but we confess to a greater liking for those who are content to help their fellow-man as much as they can now, without waiting for society to be reorganized on some new basis.

In the article referred to, Dr. Chapin states that, while one of the gravest problems to-day confronting society is found in the wide extension of great poverty, very few, unfortunately, of the panaceas offered to remedy this state of affairs are based upon a correct appreciation and knowledge of the operation of natural law. A careful study of this subject is desirable, inasmuch as poverty tends to be especially dangerous to social order under democratic institutions. With more freedom come greater wants, and a greater sensitiveness to social disadvantages. The presence and growth of extreme poverty and a sharp struggle for subsistence, particularly in our large cities, force themselves upon the attention of physicians who serve in the hospitals and dispensaries erected for the poor. After some years of such service, the author has come to the conclusion that physiology can afford the best preliminary solution of some of the problems of sociology. That there is some defect in our method of dealing with the poor is shown by the fact that, in spite of the large sums annually donated for such purposes and the good thereby accomplished, the real problem of grinding poverty does not seem to have been touched. As a result of a little more than five years' work, the Charity Organization Society of New York reports 101,916 families who have sought or received relief, which is equivalent to 407,664 persons living in actual or simulated dependence. An investigation of this vast army of unfortunates will, in very many cases, show a combination of ignorance, inefficiency, and shiftlessness which are largely the results of physical and mental ill-health. This being the case, public opinion must be directed more and more toward the means of increasing and preserving physical, mental, and moral health and vigor among the poor and unfortunate. Much disability comes from an utter ignorance of the simplest hygienic laws. This is, perhaps, most notably seen in regard to food. Granting the lack of means to purchase a variety of food, that form of nourishment should be selected which will yield the most energy, and which can be easily digested. This is precisely what is not done. The most glaring instance of this is seen in the diet of the very young, at a time when growth is extremely active. Such errors cannot be excused on the ground of extreme poverty, as the cost of proper nutriment—milk in some form—is less than that of the food so often substituted. The resultant rickets, with its softening of the bones and various developmental changes, may seriously handicap future healthy growth.

At his children's clinic, Dr. Chapin found, out of one hundred cases presented for treatment, forty-three showed marked evidences of this taint, in addition to the illness for which medical aid was sought. All efforts to relieve the very poor must start and end in the family, which constitutes the fundamental unit and basis of society and the State. No institution can take the place of the family. The domicile must hence assume great importance, not only as regards the efficiency, but also the morals, of its occupants. The problem of housing the poor is not so easy of solution as it looks. Reduced to a simple form, it would seem as if the destruction of bad tenements and the construction of good ones would settle the question. Unfortunately, a change of domicile will not necessarily change the nature of the inhabitants. In order to have a clearer conception of the condition of the very poor in tenement-houses, and the mutually acting relations of the people and their environment, it is necessary to go back and study their previous condition before coming to this country, as most of them are foreigners or of foreign descent. In the Irish census of 1841, touching the social condition of the people, the astonishing discovery is made that about seventy-seven per cent. of the people lived in cabins without floors, chimneys, or windows. These data are specially pertinent, as in the decade following 1847, 944,798 Irish immigrants landed in New York. Many of the Italian and other immigrants now swarming into New York find in the poor tenements better quarters than they are accustomed to. From this aspect it would seem as if the tenement-house system of our large cities were an upward step in evolution so far as many foreigners are concerned, quite as much as an accidental and unfortunate result of crowding on a restricted area. The plan advised by Dr. Chapin is to educate the poor—to elevate them in their own sphere, before trying to take them into a higher one that they cannot fill. Such education can only be accomplished by visiting the poor, and can be better done by women than by men. If intelligent help is to be extended, it must follow an investigation of the circumstances and character of those needing it. Something more than money must be taken to the poor and helpless. We must bring to them knowledge, foresight, a better judgment, a

stronger will, and to a certain extent must exercise these qualities for them, until they begin to give evidence in some degree of possessing them. The only kind of help that does good and not harm is that which leads to self-help. This relief will be slow, as it involves undoing habits of life formed by years of unfortunate environment. Dr. Chapin maintains that the physician, who has so much to do with the sick and ailing, can often have an insight into social problems that is denied to political economists.

## THE ELIXIR OF YOUTH.

It is curious, in this age of scepticism and of scientific reasoning, to read in our Paris letter of the discovery of the elixir of youth, and to learn that the one who claims to have found this longed-for potion is no less a person than the president of the Biological Society of Paris. Yet, at a recent meeting of this society, M. Brown-Séquard gravely asserted that he had extracted a liquid from the testes of animals, which, when injected into other animals or man, rejuvenated them and removed the infirmities of age.

The first experiments were made upon dogs. An old dog, who had long since abandoned the company of the fair sex, was subjected to a series of these injections, with the result that no puppy just gaining consciousness of the powers of ripe doghood was more ready to test those powers than was this quondam decrepit specimen of caninity. Encouraged by such promising results of his experiment, M. Brown-Séquard determined to try the effects of the injections in his own person. The results surpassed his most sanguine expectations. Things that he had been unable to do, or to do but feebly, for many years past, he was now able to execute to his entire satisfaction. He was formerly constipated, by reason of a paretic condition of the large intestine, but now his bowels were as those of "a romping boy." Formerly urination was feeble and the stream of water was propelled with but little force, owing to vesical weakness, but now Gargantua himself would envy the vigor of his performance of this act. Formerly he was obliged to rest from all intellectual effort after dinner, but now his thoughts flowed as freely after dinner as before breakfast. He could now stand on his feet for three hours at a time without feeling the least fatigue. There were other functions also, of which he did not care to speak more particularly, which had been re-established in all their pristine vigor. In short, he felt himself to be at least thirty years younger, and all this as a result of fifteen injections of testicular juice—at the rate, therefore, of two years for each injection. It is fortunate that the experiment was not continued further, for fifteen or twenty more injections, at the same ratio of rejuvenation, might have worked a startling change in the venerable scientist.

The improvement was not merely a temporary one, due possibly to a slight stimulation by the injections, as two weeks had passed at the time of his report, and he had lost none of his thirty years during that period.

Brilliant and epoch-making as this discovery is, we cannot but regard it as incomplete, for the male sex alone can profit by it. A sad condition would result were all the old men rejuvenated, while their aged companions through life were still weighed down by the heavy hand of time. Indeed, Dr. Brown-Séquard himself, with his increased mental acuity, was not slow to note the one-sidedness of his discovery. He suggested that the injection of ovarian juice might render the same service to the aged of the other sex, and he called for volunteers among the female doctors of advanced years to submit themselves to the experiment. Let us hope that the response to his call will be prompt, and that many of the old ladies of the profession in Paris will be willing to become young again for the sake of the science which they love so well.

## DEATH BY ELECTRICITY.

As our readers know, we have not been very ardent advocates of the law providing for the execution of criminals by electricity. It has seemed to us that, apart from the question of obtaining currents that would kill *cito et jucunde*, the methods proposed involved cumbersome paraphernalia, and might disfigure and convulse the victim.

The attempts of the counsel for the condemned man Kemmler, however, to show that electricity is not a suitable agent for capital punishment have brought out exhibitions of electrical non-expertness almost sufficient to cause a revulsion of feeling toward the new law. There can be no doubt whatever that electricity can kill, and kill certainly and uniformly, nor is there any doubt that apparatus can be so adjusted as to kill a man, with as much certainty at least as there is in any human affairs.

The question is really and solely one of æsthetics. The lethal current may possibly burn or scald; it may convulse, producing unpleasant contortions; and the machinery for its application, with all its tables, straps, adjustment of wet electrodes, etc., is more complicated than hanging.

## THE REGULATION OF PRELIMINARY MEDICAL EDUCATION.

All interested in the progress of medical education and the elevation of the status of American medical students will learn with pleasure that the New York State Legislature recently enacted a law requiring of medical students a certain standard of preliminary education.

The law reads as follows:

"Section 1. Before the Regents of the University of the State of New York, or the trustees of any medical school or college, within this State, shall confer the degree of doctor of medicine on any person who has not received a baccalaureate degree in course from a college or university duly authorized to confer the same, they shall require him to file with the secretary or recording officer of their university or college a certificate showing that, prior to entering upon the prescribed three years' study of medicine, he passed an examination conducted under the authority and in accordance with the rules of the Regents of the University of the State of New York, in arithmetic, grammar, geography, orthography, American history, English composition, and the elements of natural philosophy, and such certificate shall be signed by the secretary of the regents and countersigned by the principal or commissioner conducting said examination.

"Section 2. This act shall not apply to persons who have already entered upon the prescribed three years' study of medicine, nor shall it alter the time of study or the courses of medical instruction required to be pursued in the medical colleges of this State by existing statutes.

"SECTION 3. This act shall take effect immediately."

This law, which, it must be confessed, is somewhat paternal in its scope, places the students of medicine on the same footing with the students of law, who, before they enter its study, must also pass a regents' examination.

It should be distinctly understood that the law does not apply to students who have already matriculated; but all persons hereafter intending to get medical degrees in the medical colleges of this State must pass a preliminary examination. The Chancellor states that medical students may enter the examinations already held three times every year at each of the three hundred and eight academies and high schools of the State under visitation of the regents; and, in addition to this, provision will be made for special free examinations for medical students, as is now done for law students.

The Chancellor sends to the faculties of the different schools the following queries:

"1. To what extent, if any, should the grade of the examinations be lowered from the standard at present used in our academies?

"2. Would you favor a law compelling graduates from medical colleges outside of this State to comply with the above provisions as to preliminary education before practising in this State?

"3. At what times and places and how many examinations a year would you recommend?

"4. How would you regard an amendment to the law allowing the regents' examination to be taken during the first of the prescribed three years' study of medicine, instead of 'prior to entering' on such study?"

We venture to say that the profession of the State, as well as the faculties, will be decidedly averse to lowering the requirements. They should eventually be made much more stringent.

It certainly would be unfair to graduates of our State institutions to compel them to have special qualifications, when graduates from just over the border do not have to possess them. Unless some provision is made the medical students will slip off to some neighboring State college, get their degree, and return. We trust that there may be found some practicable way of amending the law in this direction. As to the fourth question, it will be quite imperative that the preliminary examination be allowed, if necessary, after probative matriculation. It would be difficult to accommodate the many students from outside the State otherwise. Furthermore, some provision ought to be made by which certificates of examinations from high schools and academies outside the State may be made equivalent to regents' examinations.

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### REGULATION OF VETERINARY PRACTICE.

WE are glad to learn that the Legislature of Pennsylvania has enacted a law regulating the practice of veterinary medicine and surgery. The law provides, "That every person who shall assume, or use, or cause to be used, any title pertaining to the practice of veterinary medicine or surgery, or any of the branches of veterinary medicine or surgery, shall be a graduate of a legally chartered veterinary college or university, having the power or authority to confer the degree of veterinary surgeon or analogous title, except as provided for in section two; and such practitioner shall be required to register in the book kept for that purpose in the office of the county clerk of the county in which he resides."

It is stated in the *Journal of Comparative Medicine and Surgery* that the Legislatures of New Jersey and California have bills of similar purpose before them. There is much in comparative pathology and in the hygiene of the domestic animals that is closely related to the practice of human medicine, and the advancement of veterinary science will be a help to medical science as a whole. We trust that the regulation of veterinary practice may be undertaken by all the States.

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## News of the Week.

BROWN-SÉQUARD'S NEW REJUVENATOR. — Brown-Séquard's statements regarding the stimulating power of testicular juice, which were received with much incredulity, have been in a measure confirmed through further experiments by M. Variot, who made a communication to the Société de Biologie on June 29th. The patients chosen were debilitated men, aged fifty-four, fifty-six, and sixty-eight years respectively, and they were not informed of the nature of the treatment adopted. In all three cases the injections were followed by general nervous excitement, increased muscular power, and stimulation and regulation of digestion.

Brown-Séquard is not the first to lay stress on the potency of juices artificially extracted from the generative organs. Horace, says *The Medical Press*, in one of his odes, beseeches the witch Canidia to reveal to him the secret of the draught which she prepared at night by crushing in a mortar pieces of flesh torn from the most fiery horses of Rome, and the patricians, says the Latin poet, used this mysterious liquid with great confidence. Consequently M. Séquard is but an humble successor of Canidia! It would not be at all surprising if the testicles contained some stimulating leucomaine. We know that the salivary glands can generate a poison, and Dr. Wooldridge found an active principle in the thymus gland which caused a rapid clotting of the blood when injected into the veins. The toxic agents in the urine secreted at night are said to be stimulating and anti-hypnotic. There is not much known about the leucomaines, and possibly Brown-Séquard has hit upon one of them. That his discovery, if it is one, is more than the discovery of some stimulating product of tissue change, we do not believe. But it will no doubt give a great impulse to the consumption of lamb fries.

THE NAPHTHA HABIT.—The *Medical Standard* calls attention to the growth of the "naphtha habit" among the female employees of rubber factories. The inhalation of naphtha fumes produces a peculiarly agreeable inebriation. Naphtha is used to clean rubbers, and is kept in large boilers to the valve of which the female employees obtain access and breathe the fumes. The habit was introduced from Germany, and is chiefly found in the New England States.

MCGILL UNIVERSITY.—Dr. George Ross has been appointed Professor of the Practice of Medicine, and Dr. Richard Z. McDonnell Professor of Clinical Medicine, in the Medical Faculty of the University.

SELLING CIGARETTES TO CHILDREN.—A conviction, under the new law in New York State prohibiting the selling of cigarettes to children under sixteen years of age, has been obtained. The offender was compelled to pay a fine of fifty dollars.—*Medical News.*

THE ORGANIZATION OF THE TENTH INTERNATIONAL MEDICAL CONGRESS, which is to be held at Berlin, August 4 to 9, 1890, is under way. At the call of Professors Virchow, Bergmann, and Waldeyer, a large number of representative men will meet at Heidelberg to begin the arrangements.

FADGES FOR PARISIAN STUDENTS.—The Parisian students have recently decided to wear certain marks of distinction, to denote the courses which they are pursuing. Medical students will wear, on a boutonnière of red and black, a little violet band with a skull made of some white metal. Army medical students will wear, on a garnet boutonnière, the symbol of health—the rod of Æsculapius in gold. Students of pharmacy will be distinguished by the emblem of pharmacy, a silver shaft encircled by a gold serpent, worn on a green boutonnière.—*New York Medical Journal.*

THE HOSPITAL OF JOHNS HOPKINS UNIVERSITY.—Dr. Henry M. Hurd, of Pontiac, Mich., has been appointed superintendent of the hospital. He is at present the superintendent of the State Asylum for the Insane, at Pontiac.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will meet at Evansville, Ind., September 24, 25, and 26, 1889.

GOING TO CHURCH.—This is what a Dakota doctor advises about it: "I went to church and Sunday-school, and if any of you young M.D.'s do not attend Sunday-school, you should begin, as it will help you to a good class of patients, besides its grave duty as a gentleman and a man of education. I have a class of young misses, and am sure they help me to as many patients as any of my friends; besides, you had better be at church than hanging around the streets or saloons."

DEATH OF DR. J. LEWIS SMITH, JR.—We regret to learn of the recent sudden death of Dr. J. Lewis Smith, Jr., of this city, a very promising young physician.

A HOSPITAL FOR ANN ARBOR.—The city of Ann Arbor, Mich., has voted to issue bonds for $25,000 for the erection of a hospital, for which the legislature appropriated $50,000.

THE LAW REGULATING THE PRACTICE OF MEDICINE IN MAINE has been declared invalid through a technicality.

DR. HARRIS H. BEECHER, late Assistant Surgeon of the One Hundred and Fourteenth New York Volunteers, and a well-known writer and speaker of the Shenango Valley, died at Norwich, N. Y., on July 15th, aged sixty-nine years.

DEATH OF JOE FOGARTY.—Almost every physician in this city, and hundreds living elsewhere, knew of Joe Fogarty who, for nearly twenty years, was assistant keeper of the Morgue, and who died somewhat suddenly last week. Fogarty had a talent for the peculiar and repulsive kind of work in which he was engaged; and he pursued it without becoming brutalized, or losing the natural kindliness of his disposition.

VERMONT UNIVERSITY MEDICAL COLLEGE.—The annual commencement of the medical department of the University of Vermont occurred, July 15th. There were sixty graduates. The annual address was delived by ex-Minister E. J. Phelps, who spoke on "The True Standard of Success in Life."

DR. AUSTIN WHITE THOMPSON, for some time Assistant Superintendent of the Northampton (Mass.) Asylum for the Insane, and for fifteen years proprietor of the Shady Lawn Retreat, died last week of consumption. He was born at Pelham, May 22, 1834. He was graduated at Harvard in 1854 with salutatory honors. After special study at various hospitals, he was appointed Assistant Superintendent of the Northampton Hospital by Dr. Earle. He was forced to retire on account of poor health at the end of two years. In 1874 he started the Shady Lawn Retreat. Dr. Thompson was a man of literary tastes and a poetical turn of mind. He was also a skilful surgeon.

CONTINENCE AND SYPHILIS.—*The Lancet*, commenting editorially upon our remarks regarding continence as a preventive of syphilis, adds: "'Though Dr. Gowers' testimony to the importance of chastity as a means of health is the last great note sounded to Englishmen, it does not stand alone in medical literature. There is another voice which may be recalled here which will sound for generations yet, as characteristic in its ethical strength as in its medical and scientific authority. Sir James Paget, in his clinical lectures, speaking of patients that expect us to prescribe fornication, says: 'I would just as soon prescribe theft or lying, or anything else that God has forbidden. If men will practise fornication or uncleanness, it must be of their own choice and on their sole responsibility. . . . Chastity does no harm to mind or body; its discipline is excellent; marriage can be waited for; and among the many nervous and hypochondriacal patients who have talked to me about fornication, I have never heard one say he was better or happier after it; several have said they were worse; and many, having failed, have been made much worse.'"

HEART-FAILURE AS A CAUSE OF DEATH.—"It would be an excellent idea," says the *Manchester Union*, "if physicians of the present day would invent some other reason for about all of the deaths which occur nowadays than the cheap fraud, 'heart-failure.' This might not be of serious moment were it not for the fact that hundreds of people are being nearly frightened to death by the constant use of the cause for sudden deaths, and many people who are sick, and necessarily have some heart symptoms, are kept in constant terror by reading or hearing in other ways of death after death by heart-failure. There are probably no more deaths from heart-failure in these times than heretofore, but a new cause for death has been coined, and the nervous and timid are being severely injured by it." We would suggest that hereafter physicians use the term "cardiac asthenia," which has a learned sound and means just the same. The immediate cause of death in many diseases being, in fact, "heart-failure," we do not see how otherwise the "nervous and timid" can be protected.

DR. A. E. M. POND, the inventor of Pond's sphygmo graph, died at Rutland, Vt., recently.

# Society Reports.

## ONTARIO MEDICAL ASSOCIATION.

*Ninth Annual Meeting, held at Toronto, Canada, June 15 and 16, 1889.*

(Reported by our Canadian Correspondent.)

DR. W. H. HENDERSON, OF KINGSTON, PRESIDENT, IN THE CHAIR.

MEETING opened with an attendance of two hundred and seventeen members.

After the report of Committee on Arrangements had been presented, DR. W. J. GIBSON, of Belleville, read the history of a case of

SYMMETRICAL GANGRENE,

which he was inclined to consider an example of Raynaud's disease. The gangrene was limited to the toes, the patient (a male, aged forty-one) eventually losing all the toes of the right foot and the second and third toes of the left foot. The constitutional symptoms were less severe than the local. The onset of the disease was sudden, commencing with pain and a feeling of numbness in both arms and legs; a condition of ischæmia was then observed in the feet; this was followed by cyanosis, erythema, and gangrene, limited to the parts above mentioned. Dr. Gibson concluded his paper by giving a short sketch of the supposed pathology of Raynaud's disease, and also a brief account of its clinical history.

DR. J. CAMPBELL read a paper giving reports of cases in practice, one of which was an interesting case of

LOBULAR PNEUMONIA IN A PRIMIPARA AT CONFINEMENT.

This case was marked by a high temperature and complete suppression of lacteal secretion, and ended in recovery of the patient.

DR. R. W. BRUCE SMITH, of Seaforth, read a paper entitled

REFLEX NERVOUS PHENOMENA, DUE TO PREPUTIAL CONTRACTIONS.

He briefly related a few cases, coming under his own observation, of nervous irritability in children, arising as a result of narrow prepuce, accompanied by preputial adhesions.

CASE I.—A male child, aged five months. Parents complained that the child cries almost constantly without any apparent cause, is very fretful, and has marked evidence of nervous prostration, trembling of eyelids, convulsive movements of the limbs, etc. On examination Dr. Smith found a pinhole orifice, with extensive adhesions, between the prepuce and glans. He broke down the adhesions, and forcibly dilated the prepuce, so that it could be drawn back over the corona glandis; the parts were then thoroughly cleansed. As a result of this small operation the patient was relieved of all nervous symptoms.

CASE II.—A male child, aged eight months. This child was very fretful, especially during micturition. These symptoms of fretfulness and dysuria had existed for three months. Dr. Smith treated this case by means of gradual dilatation, until the prepuce could easily be retracted over the corona. The result was entirely satisfactory, there being no return of the symptoms.

CASE III.—A male child, who at eighteen months showed no inclination to walk. About this time had several convulsions; at the age of three years could scarcely stand; legs were very weak, but not wasted. On general tonic treatment made no improvement. On examination an elongated prepuce was found bound down to the glans. When the adhesions were broken down and the prepuce dilated, the latter could be easily retracted. The parts were then thoroughly cleansed and the smegma, as in each of the other cases, was removed. In about a fortnight there was marked evidence of improvement, and from this the child progressed rapidly, so that at the end of four months he was able to run about with the other children.

In concluding his interesting paper Dr. Smith alluded to Mr. Edmund Owen's teaching, that a small preputial or urethral orifice and adherent prepuce were, perhaps, the commonest causes of hernia in children. He also briefly referred to Mr. Bryant's statistics bearing on the same point, and urged attention to a subject upon which textbooks say so little. He believed that in some cases with marked nervous symptoms in male children we may find a causative relation to those symptoms in an abnormal condition of the penis, and that by directing our attention to the relief of that condition we may convert a feeble, puny, wakeful, and irritable boy into a healthful and happy child.

DR. NEWMAN, of New York, made a few remarks, highly approving of Dr. Smith's treatment and method of operating, deprecating circumcision in those cases where dilatation is quite sufficient. Drs. McGuire, of Guelph, Murray, of Thorndale, and others continued the discussion.

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AFTERNOON SESSION.

THE PRESIDENT cordially welcomed the fraternal delegates present from American Medical Associations, and invited the following visitors to the platform: Dr. Alex. J. C. Skene, of Brooklyn; Drs. Roswell Park and Tremaine, of Buffalo; Dr. Newman, of New York; Dr. Foster, of Portland, Me., and others.

DR. W. H. HENDERSON, of Kingston, then delivered the

PRESIDENT'S ADDRESS.

He first expressed his gratitude for, and appreciation of, the high honor paid to him, as one of the younger members of the Canadian medical profession, in being elected to the office of president of this most prosperous association. Appropriate "in memoriam" reference was then made to the late Dr. R. P. Howard, of McGill College, and others who had been called away during the year. Referring to the present condition of the medical profession in the Province, the President uttered some apt and interesting remarks concerning the wide and rapid diffusion of knowledge at the present time. He thought that "at no time in the history of our country has the medical profession of Ontario been in a more favorable state than at the present time." Congratulatory and complimentary remarks regarding the high standard of professional education in the Province, and the increase of hospital accommodation were indulged in, and reference was made to the enterprise shown by Canadian students in acquiring hospital experience of the most valuable kind in Europe and the United States. The President then directed his remarks to a review of the medical legislation at present existing, and expressed regret that the Ontario Medical Council, an institution which has done much to elevate the standard of medical education in the past, should persist in enforcing the rule excluding men who possess British diplomas from practising in this Province. He did not consider it just that an M.D. from London University, or a Fellow or Member of the Colleges of Physicians or Surgeons should, on coming out to this country, be required to undergo a further test of his ability, at a very considerable expense, before he shall be allowed to practise in Ontario. He also believed that the fact of a British diploma exempting a man from passing the Ontario Medical Council had, in the past, been an incentive to Canadian students to visit the hospitals and compete in the examination halls of Great Britain. This was particularly of value to those who felt they could not afford to pay the high fees charged for both examinations. He expressed the hope that our medical legislators would see their way clear to remove this obstacle to the medical student, and which might ulti-

mately, by discouraging post-graduate study abroad, impair the future usefulness of the profession. To those who would place obstacles in the pathway of our students, and who, though perhaps unintentionally, prevent them from pursuing their post-graduate studies abroad, he would, he said, answer in the words of Medea to the Corinthians, viz. :

> There are who distant from their native soil,
> Still for their own and country's glory toil;
> While some, fast rooted to their parent-spot,
> In life are useless and in death forgot.

He alluded then with expressions of regret to the action of certain medical men who, notwithstanding the unexcelled system of medical education in this Province, carry on their practice with unblushing quackery. The fact that they had regularly obtained registration at the Medical Council was set up as a defence, but permission should be given by Parliament to the Medical Council to cancel the diploma of any person acting in an irregular manner. Then this question could be speedily disposed of by the council, and, while the public would be better protected, our profession would be freed from the few of whom we are ashamed, and from whom we would be gladly separated. Dr. Henderson then eloquently made reference to the importance of making more provision for post graduate study and pathological research. He urged the claims of the profession for government aid in founding and establishing a great "Provincial Medical Exchange," where every practitioner of medicine in the Province might bring the results of his labors, and where facilities for pathological study might be afforded to stimulate research and original investigation among all members of the medical profession. While not advocating the expenditure of public money for medical education in the ordinary routine of college work, he hoped that in the near future our provincial authorities, regarding as they do education as the corner-stone of our civilization, will decide to encourage the post-graduate study of medicine by liberally providing for our higher educational needs in that respect. The investment would, he considered, be a profitable one from every stand-point.

The address, which was a most able and eloquent presentation of the present needs of scientific medicine in Ontario, concluded with a graphic reference to the achievements which might yet be made in the interests of the profession in Canada, and earnestly urged co-operation in maintaining untarnished the high reputation already attained, and by patient, diligent advancement adding fresh lustre to the honors achieved in the past.

### DISCUSSION ON SURGERY.

Dr. W. T. Aikins, of Toronto, opened the discussion on surgery with the subject,

### THE GENERAL MANAGEMENT OF THE PATIENT AND SICK-ROOM IN SURGICAL CASES.

He first dealt with the question of pure air in the sick-room, and maintained that sufficient attention was not paid to what some might consider the minor details in the arrangement of the sick-room. He instanced the large mortality in Canada every year from phthisis as evidence of the fact that too little attention was paid to the proper ventilation of our homes and schools, and, above all, to the sleeping apartments. Why was it regarded of such importance to guard carefully the proper disposal of fæces, while at the same time little was done to warn people of breathing over and over again the same air? If, then, ventilation was of so much importance to those in health, how much more detrimental would it be to neglect looking after the purity of the air-supply to those who have undergone the shock of some operation, or might be debilitated by some exhausting discharges. He urged the importance of every surgeon taking the precaution to see that there was a means of escape for foul air near the roof or ceiling of every room where a patient was confined. A practical lesson was given in the filtering of air. The placing in the window of the sick-room of two sheets of mosquito-netting, with a thin layer of cotton-batting between these, was recommended by Dr. Aikins. He related several examples where attention to these details had proved advantageous.

Dr. Ruttan, of Napanee, continued the discussion, and said he had used the window netting with great satisfaction. His plan was to place between the layers of the netting antiseptic cotton or oakum, to which some reliable antiseptic agent had been added. His method in private practice was to have the room for the operation carefully cleaned with a bichloride solution the day before, and to have the antiseptic filter in the window several hours before the operation was commenced.

Dr. Britton, of Toronto, considered it was very important to see that the patient had none but the most cheerful surroundings. He thought there had been too great a tendency, of late years, to restrict the diet of invalids, and believed that the mortality in lying-in cases was increased thereby. He briefly showed the advantages gained by having small wards in hospitals, and of the cottage system, in order to secure what was of the greatest importance, viz., a regular supply of fresh air to the convalescing patient.

Dr. Skene, of Brooklyn, N. Y., thought foul air was even worse for a patient than foul water. We must, he said, all breathe air, but he did not think, from the appearance of the robust Canadians he had before him, that many of them drank only water. In abdominal surgery he was particular to have the air of the operating-room as pure as possible. He was careful to limit the number of spectators in the operating-room, for he had noticed that while some surgeons made elaborate preparations in regard to the room, bedding, instruments, etc., they were not careful in keeping the air free from being contaminated by the exhalations of numerous spectators. He favored the method of filtering the air as advocated by Dr. Aikins, and instanced several institutions where he had seen the same used with satisfaction.

Dr. William Oldright, of Toronto, considered that it was important to have the temperature of the room always suitable and uniform, and, while the air must be kept as pure as possible, its temperature should be carefully looked after.

Dr. Roswell Park, of Buffalo, N. Y., then read, by invitation, a paper on

### THE RADICAL CURE OF HERNIA.

He first briefly reviewed the many operations which had been devised with the hope of a permanent cure, and then minutely described his method of operating, which, he said, could not be regarded as either new or original, but was rather a combination of several well-known plans. After shaving the parts and thoroughly washing them antiseptically, he made an incision over the external ring. The sac will usually be found without much search, but is sometimes blended with the cord in such a way as to be very confusing to the operator. When the sac is isolated, after splitting up the canal if necessary, it is opened. If omentum is found it is ligated and removed, the pedicle being dropped. The sac is then ligated with catgut close to the external ring, and divided close to the ligature. If the hernia be a congenital one, it is similarly ligated close to the testicle, so as to leave a tunica vaginalis. A similar procedure is adopted in femoral hernia. The pillars of the ring are then drawn close by silver wire, which is twisted, cut short, and the ends turned over upon themselves. The integumentary wound is closed with catgut, generally without drainage. If asepsis be perfect, union should be obtained in forty-eight hours. In femoral hernia he generally adopted Ball's plan of twisting the pedicle of the sac. He does not often wire the femoral ring, but leaves it to fill by granulation. In umbilical hernia, usually found in women with lax and flabby abdominal walls, he favored extirpation of the sac and hinging the margins of the ring together in two or three tiers. The truss he did not consider should be worn after the opera-

tion, as its pressure had a tendency to cause absorption of the granulation-tissue. He had operated in cases of acute strangulation twenty times, in patients ranging from six to seventy-eight years. Of these, four died, and one had a relapse. He had fifty two cases of deliberate operation for radical cure, and all recovered without any sign of disturbance. Of these, fifteen were in females; six of these being umbilical and two femoral. He did not hesitate to operate on both sides simultaneously, and had in some cases relied solely upon cocaine as the anæsthetic.

Dr. McFarlane, of Toronto, had operated three times with good results, from Wood's operation with silver wire, and after two years there had been no relapse. He had also had two successful cases in which he operated according to Czerny's method. His experience, however, taught him, if a suitable truss, properly adjusted, will keep the bowel reduced, it is preferable to any operation.

The Association then divided into Sections.

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## SURGICAL SECTION.

The President nominated Dr. Howitt, of Guelph, Chairman of this Section.

Dr. Mitchell, of Enniskillen, presented a paper on

### EARLY OPERATION IN CASES OF OBSCURE ABDOMINAL DISEASE,

in which he made reference to the frequency with which the general practitioner, in country practice, meets with urgent cases in which an abdominal section is called for. He related two cases, where after some delay, owing to the refusal of the patient's friends to consent to an operation, he had opened the abdomen, in both cases to relieve obstructions, caused in the one case by hernia, and in the other by a large abscess pressing upon the sigmoid flexure. In the case of hernia the patient rallied, passed flatus on the following, and fæces on the fourth, day. She, however, died on the fifth day. In the second case, after evacuating the abscess the bowels moved and the patient improved for some days after the operation, but ultimately died from exhaustion. Dr. Mitchell considered that both of these cases might have been saved if an early operation could have been done.

Dr. Mann, of Buffalo, thought that not only should we operate earlier, but that more cases should be operated upon. He related a brief history of a case of pyo-salpinx of six years' standing, and also another of abscess of the ovary, as evidence in support of early operative procedure. There was difficulty in diagnosing pyo-salpinx, owing to the fact that there was often little or no rise of temperature, and sometimes nothing else, to direct suspicion to the presence of pus. The only guide to diagnosis in such cases seemed to be the previous history of repeated attacks of so-called pelvic cellulitis. He related a case of laparotomy, performed successfully for general septic peritonitis following labor, in which one pint of pus was evacuated and the patient had made a good recovery.

Dr. W. Oldright, of Toronto, spoke of a case he recently had of hæmato-salpinx, in which he had operated with a good result. There had been in this case a history of chills, high temperature, and sweating, and a diagnosis of pelvic abscess had been given.

Dr. Groves, of Fergus, was in favor of evacuating pelvic abscess in the female through the vagina. It was certainly the shortest way to reach the pus, and afforded the best facilities for drainage.

The discussion on ophthalmology was introduced by Dr. Moore, of Brockville, who had chosen for a subject

### GLAUCOMA,

one of the most important, he said, and dangerous diseases of the eye, which came frequently under the observation of the general practitioner; and it was of the utmost importance that an early and correct diagnosis should be made. Dr. Moore said he was convinced that the study of diseases of the eye, and especially clinical teaching of the subject, should have a more prominent place in the curriculum of medical colleges, for the general practitioner should be able to recognize and treat successfully all the ordinary diseases of the eye. Glaucoma was a disease so insidious in its course that it might destroy sight before the patient was aware of its presence. The points in diagnosis to be relied upon were: (1) Increased tension of the eyeball; (2) limitation of the field of vision, especially on the nasal side; (3) the hypermetropia; and (4) the anæsthesia of the cornea. We generally find acute inflammatory glaucoma preceded by a premonitory stage, the signs of which were often mistaken for neuralgia or stomach derangement. The nature of secondary and hemorrhagic glaucoma was referred to, and the treatment was then discussed. The operation of iridectomy was frequently resorted to, but gave the best results in acute and subacute cases. He thought sclerotomy was better in cases of simple glaucoma, as it does not disfigure the eye to so great an extent. Eserine is a valuable drug for lessening the tension, but atropia was certainly contraindicated. Attention must be paid to the general health, and particularly to digestion, which was often seriously at fault in these cases.

Dr. Burnham, of Toronto, thought that primary glaucoma was of more interest to the general practitioner, as the secondary affection soon drives the patient to the specialist on account of the severe pain. Primary glaucoma should be considered as either acute or chronic. In the former the severe headache was such as to often divert attention from the eye, so that the patient might become quite blind before he is aware that there is anything the matter with the eye. Then, if not attended to early, it may become necessary to remove the eye. There was a difficulty also in recognizing the chronic form of the disease on account of its resemblance to cataract, in there being dimness of vision without pain, so that the patient might be told to wait for the development of the cataract, and in that way total loss of sight result.

Dr. Palmer, of Toronto, thought iridectomy was to be preferred to sclerotomy in most cases of glaucoma.

Dr. R. A. Reeve, of Toronto, said he considered secondary glaucoma of more importance to the general practitioner than the primary form of the disease, owing to the rarity of the latter. The development of glaucoma in children, following ulceration of the cornea, should be looked for. He considered that eserine, on account of its usefulness to relieve tension, was the sheet-anchor in treatment.

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## MEDICAL SECTION.

Dr. W. B. Geikie, of Toronto, acted as Chairman.

Dr. McKinnon, of Guelph, presented a paper on

### VENESECTION IN PUERPERAL ECLAMPSIA.

His experience warranted him in warning young practitioners against placing confidence in bromide of potassium, chloral hydrate, or even hypodermic injections of morphia, in cases of puerperal eclampsia. The use of the lancet was no new treatment, but rather a return to old practice, for time had brought forth nothing he considered equal to it in those cases. He thought death usually resulted from pressure on the brain from serous effusion, hemorrhage, or œdematous infiltration, and to combat such there was nothing of such value as free venesection. He did not wish, he said, to be understood as recommending venesection as a measure to arrest the convulsion, but by diminishing the tension on the cerebral vessels to disarm the convulsion of its fatal power. When called to a case of puerperal convulsions he always adopted the following as a guide to his procedure:

1. Bleed the patient if convulsion be severe or followed by coma.

2. Control the convulsion with chloroform.

3. If the patient be at full time, take steps to terminate labor as quickly as possible.

4. Administer an active purgative—Epsom or Rochelle salts.

5. If the convulsions recur, give a large hypodermatic of morphia.

This interesting paper closed by giving an account of seven cases of puerperal eclampsia in which he had followed the above course of treatment with success in each case.

Dr. Richardson, of Toronto, looked upon venesection as the sheet-anchor in the treatment of puerperal eclampsia, for it not only prevents extravasation, but is the very best method for reducing the total quantity of poison in the system.

Dr. Holmes, of Chatham, would, besides employing venesection, use diaphoretics freely, and in markedly anæmic subjects would hesitate before bleeding.

Dr. A. H. Wright, of Toronto, contributed an excellent paper on

THE PREVENTION OF PUERPERAL SEPTICÆMIA.

He said he considered no apology was necessary for bringing such an ordinary subject before the meeting, for he maintained this matter should be continually discussed until sepsis became practically unknown in the lying-in room. It is anything but creditable to the medical profession that puerperal septicæmia is more common in private practice than in well-conducted hospitals? We are not to judge its effects simply from its death-rate, but must also take into account the amount of misery and suffering resulting from the milder forms of septicæmia. Can we prevent this septicæmia? Dr. Wright answered this question in the affirmative. How can it be done? By thorough and perfect cleanliness on the part of ourselves, and the essentials for such are hot water, soap, a nail-brush, and a penknife; on the part of our patients, proper clearing of bleeding surfaces and dressings which will keep them clean, and along with these good ventilation, thorough drainage, and perfect plumbing. Dr. Wright cautioned the profession against pinning their faith to any special antiseptic, thinking that, by simply using this, dirty hands and dirty instruments could be employed with impunity; at the same time he believed that modern antiseptic remedies furnish invaluable assistance in efforts toward asepticism. Dr. Wright then gave the following short account of the methods practised in the Burnside Lying-in Hospital, Toronto. On admission, the patient is bathed and dressed entirely in clothing belonging to the hospital. When labor comes on she is clothed in a clean night-dress and drawers. The presentation is made out by abdominal palpation. Vaginal examinations are made in the first stage, occasionally, but as seldom as possible. Each one who touches the patient first washes his hands thoroughly, using soap, nail-brush, and penknife, and then rinses them out in a solution of bichloride of mercury, 1 to 1,000. This process must be repeated before each examination. When the presenting part is pressing on the perineum the vulva is protected by a towel which has been soaked in the bichloride solution. After the delivery of the child no vaginal examinations are made; the placenta is expressed by the Dublin method. The assistant keeps the uterus contracted with gentle rubbing with the finger-tips. The soiled clothes are then removed, the nurse washing the vulva with a bichloride solution. No vaginal or intra-uterine douche is used either before or after delivery. The antiseptic pad is then applied. Dr. Wright then illustrated the making of this pad, which consists of absorbent cotton, enclosed in butter-cloth; before the dry pad is placed in position a layer of absorbent cotton wrung out of a bichloride solution is placed over the vulva, the pad lying on this. Septicæmia had been exceedingly rare in the Burnside during the last few years, the temperature rarely reaching 100° F.; the patients generally go out in two weeks after labor. Dr. Wright objected to vaginal and intra-uterine douches, "because they are unpleasant for the patients, because they interfere with the physiological rest which the torn and bruised parts should have, because septic matter or air may be introduced and brought in contact with rents in the cervix, vagina, or vulva, and finally because they are unnecessary." He also laid great stress on the danger of introducing the fingers into the vagina after labor; it is entirely uncalled for in the great majority of cases, the placenta being easily expressed by external manipulations; it is at this stage that septic matter is most readily taken up by the open vessels and the abraded surfaces. He believed that puerperal septicæmia is more frequently caused by absorption of septic matter by the torn fourchette or perineum than from any other source, therefore the practitioner should be careful to avoid this by the use of the antiseptic pads, and cleansing the vulva with the bichloride solution when the pads are changed.

Dr. Temple, of Toronto, agreed with the reader of the paper that there would be very few cases of puerperal septicæmia if the accoucheur took all necessary precautions. He also objected to the routine use of douches. In his own practice he never used an antiseptic pad, but simply a perfectly clean diaper. He believed that most septicæmic cases were due to absorption of septic matter by rents in the passages.

Dr. W. Gunn, of Clinton, then read a paper on

A CASE OF SCLERODERMA,

and exhibited the patient. He first gave a brief outline of the history, nature, and peculiarities of this rare form of skin disease, and then explained the history of the case presented. The patient, a male aged forty, upon whom the disease was well marked, was examined with much interest by members of the Section.

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Evening Session.

The President first introduced Dr. Alexander J. C. Skene, of Brooklyn, N. Y., who was present by invitation, and read a paper on

INTRALIGAMENTOUS OVARIAN CYSTOMA.

This term, said Dr. Skene, embraces only those cysts which are developed from the ovary and situated completely within the folds of the broad ligament, being thus neither pedunculated nor provided with a sessile attachment, but surrounded by a capsule formed from both folds of the broad ligament. Two theories have been advanced to explain the origin and unusual position of these cysts. The first assumes that the ovary itself is placed between the folds of the broad ligament from developmental error. The second theory is that the cystoma burrows during its growth into the ligament. In order that this may come about it is necessary that the ovary, by a special formation, be closely attached to the ligament or fixed there by inflammatory adhesions. The latter view is supported by some observations in the author's cases. They are generally monocysts, a fact accounted for by Bland Sutton by their development from the deeper structures of the ovary—the paroöphoron. The position of the cysts with reference to the other organs is also of interest, because in different portions it would cause different displacements. Their anatomical relations were of the utmost importance in regard to their surgical treatment. As a point in diagnosis they are generally accompanied by more distressing pains in the pelvis, and more disturbance of the functions of the bladder and rectum, than are ovarian or parovarian cystomata. Physical examination shows that the cyst is fixed at its most dependent part, the fixation being at one side or extending from side to side, according as the tumor occupies one or both ligaments. Fluctuation is noticeable in the pelvic portion of the tumor. Dr. Skene then gave in detail the points of diagnosis from fibrocysts, etc. For treatment enucleation ranks first, as it

is applicable to more cases than any other method. The operation was fully described and drainage of the pouch advocated. The peritoneal surfaces of the edges of the pouch are brought together by a continuous catgut suture, and brought up and fastened to the peritoneal edge of the abdominal wound, if possible. Another method was to remove the cyst and capsule together by ligating the ligaments below the cyst by means of the repeated continuous ligature. Another was by a combination of these two methods. Unfortunately there are some cystomata of this variety which cannot be removed by any method known at the present time. These should be treated by drainage above, uniting the cyst to the abdominal wall, after removing as much of the cyst as possible. The drainage must be long continued and the recovery of the patient is generally tedious.

Dr. Mann, of Buffalo, and others took part in the discussion that followed.

The President then introduced to the Association the Hon. GEORGE W. ROSS, Minister of Education for the Province of Ontario, who made a few remarks welcoming the members of the profession to the city, and congratulating them on the interest shown by the large attendance in the welfare of the Association.

The discussion in medicine on the subject,

THE PROGNOSTIC SIGNIFICANCE OF MODERATE CARDIAC HYPERTROPHY AND DILATATION,

was then opened by Dr. Charles Sheard, of Toronto, and continued by Dr. McPhedran, of Toronto, and Dr. Bruce Smith, of Seaforth.

The Association then went into executive session, and considered certain amendments to the Code of Ethics.

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SECOND DAY, THURSDAY, JUNE 16TH.

The meeting of the Association was resumed. After the transaction of routine business the meeting was again divided into Sections.

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SURGICAL SECTION.

DR. E. E. KING, of Toronto, presented a paper on

THE USE OF THE CYSTOSCOPE IN DIAGNOSING OBSCURE BLADDER DISEASE.

This was followed by an interesting discussion, and the following papers: Dr. N. A. Powell, of Toronto, on "Demonstration of the Use of an Improved Form of Relaxation Suture;" Dr. J. E. White, of Toronto, on "Recent Modes of Treating Fractures above the Wrist-joint;" Dr. Newman, of New York, on "Electrolysis in Surgery and Gynecology;" Dr. Howitt, of Guelph, on "Miscellaneous Laparotomies;" Dr. Groves, of Fergus, on "A Case of Vaginal Hysterectomy, with Abdominal Ovariotomy;" Dr. Walker, of Toronto, on "Some Practical Points in Gynecology and Abdominal Surgery;" Dr. N. McPhatter, of Cleveland, O., on "Cholecystotomy." These papers were each followed by interesting discussions.

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MEDICAL SECTION.

Papers were presented as follows: Dr. Price Brown, of Toronto, on "The Treatment of Phthisis Pulmonalis;" Dr. Smith, of Orangeville, on "Pathological Relations of Spleen and Bone Medulla;" Dr. Sweetnam, of Toronto, on "The Probable Future of Electricity in Gynecology;" Dr. Anglin, of Kingston, on "Cases of Typhoid Fever with Perforation of the Bowel;" Dr. McPhedran, of Toronto, on "Abortive Forms of Typhoid;" Dr. Ryerson, of Toronto, on "Some Forms of Headache;" Dr. Dickson, of Toronto, on "A Plea for Electricity in Medicine;" Dr. McKinnon, of Alvinston, on "Alcoholic Stimulants as Regards Quality."

GENERAL SESSION.

DR. ALLAN BAINES, of Toronto, opened an interesting discussion on obstetrics with the subject

LACERATION OF THE PERINEUM.

Drs. Barreck, of Toronto, Fenwick, of Kingston, A. H. Wright, of Toronto, and Howitt, of Guelph, followed in the discussion.

The evening session opened with the discussion in therapeutics, opened by Dr. Thorburn, of Toronto, on

THE USES AND ABUSES OF ANTIPYRETICS,

in which Drs. J. L. Davison and Wishart, of Toronto, took part.

After the reception and discussion of the reports of the various committees had taken place, the report of the Nominating Committee was presented, and by its unanimous adoption the following officers were elected:

*President*—Dr. J. Algernon Temple, Toronto; *Vice-Presidents*—1st, Dr. Lundy, Preston; 2d, Dr. Shaw, Hamilton; 3d, Dr. Fenwick, Kingston; 4th, Dr. Hanley, Waubaushene; *General Secretary*—Dr. D. J. Gibb Wishart, Toronto; *Assistant Secretary*—Dr. W. P. Casen, Toronto; *Treasurer*—Dr. E. J. Barreck, Toronto.

The report of the Treasurer showed an income for the year of $625. The newly elected president, Dr. Temple, of Toronto, was then conducted to the chair, and the Ninth Annual Meeting was brought to a close.

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## KENTUCKY STATE MEDICAL SOCIETY.

*Thirty-fourth Annual Session, held at Richmond, Ky., May 8, 9 and 10, 1889.*

DR. L. S. MCMURTRY, OF DANVILLE, PRESIDENT, IN THE CHAIR.

THE attendance was good, and the meeting from the first promised to be an unusually good one. Reports of the Secretary, Treasurer, Committee on Arrangements, and other committees were briefly made. Ex-Governor James B. McCreary was present and made a speech, in which he extolled the medical profession very highly. He had served with them in the pursuits of peace and of war, in the legislative halls of the State and nation, had yielded his place in the gubernatorial chair to a doctor, and one of this profession, from his own city of Richmond, now occupied the office of Chief Justice of the United States.

On motion, it was voted to appoint a Committee of Reference in each county of the State to see to the

ENFORCEMENT OF THE NEW MEDICAL LAW,

by proceeding against all violators, and to use the money in the treasury of the Society for the prosecution of these offenders.

On motion, the national formulary was indorsed. A committee, consisting of Drs. J. G. Carpenter, of Stanford, Steele Bailey, of Stanford, and H. Hunt, of Lexington, was appointed to attend the meeting of the Pharmaceutical Association at Crab Orchard, May 15th.

A motion to hold the vote for officers with closed doors and by ballot, instead of committee, was voted down.

OFFICERS ELECTED.

*President*—John A. Ouchterlony, Louisville; *1st Vice-President*—William Jennings, Richmond; *2d Vice-President*—R. L. Willis, Lexington; *Permanent Secretary*—Steele Bailey, Stanford; *Assistant Secretary*—John Young Brown, Lexington; *Treasurer*—J. B. Kinnard, Lancaster. Henderson was chosen as the next place of meeting, and J. S. Letcher as Chairman of the Committee of Arrangements.

On the first evening of the session an elegant hop was given at the rooms of the Madison Club, and a banquet was served at the Garnett House on the evening of the second day. The master of ceremonies was Dr. Jennings,

of Richmond. Toasts were responded to as follows: "Our Guests," ex-Governor McCreary, of Richmond; "Medical Education," Dr. Dudley S. D. Reynolds, of Louisville; "The Young Doctor," Dr. J. M. Mathews, Louisville; "The American Doctor," Dr. W. H. Wathen, Louisville; "The Kentucky Doctor," Dr. L. S. McMurtry, Danville; "The Absent Ladies," Dr. O. D. Todd, of Eminence. The banquet was a success.

Greetings were sent the Michigan and Kansas State Medical Societies, then in session.

The attendance was very general from all parts of the State. Several prominent gentlemen at Louisville were not there, having been detained by the Louisville races.

Dr. Ap Morgan Vance made an interesting discourse on the subject of

THE ART OF ASEPSIS.

He showed the paraphernalia of the art and a very convenient case to carry when making calls or going into the country.

The report on

MEDICAL ETHICS

was made by Dr. Dudley S. Reynolds, of Louisville. He had looked into the requirements of this and other medical societies and found them quite exacting. Ethics are not law. The ethical penalty is censure, expulsion, ostracism. Ethics have no control over a man's property or personal rights. He thought the Code of Ethics excellent, and that the Secretary should place in the hands of every member of the Society a copy, and send it into the counties where there was no society.

Dr. Larrabee, of Louisville, had never heard that hydra-headed monster, medical ethics, made so pleasant as by Dr. Reynolds. He considered ethics the conduct of gentlemen. If a man is a gentleman he will need no ethics. If not a gentleman, ethics will not make him one.

The report on

OPHTHALMOLOGY

was made by Dr. S. G. Dabney, of Louisville. The advance during the past year, though nothing brilliant, had been steady. Cocaine has fairly held its own. The cataract operation with iridectomy was carefully discussed, also antiseptics in eye practice.

ACUTE TRAUMATIC TETANUS

was the subject of a paper by Dr. R. C. McChord, of Lebanon. He related some cases, and gave the results of treatment. He considered bromide of potash the best of all known remedies.

Dr. F. H. Clarke, of Lexington, had had half a dozen cases in his practice, and all proved fatal. He believed all cases traumatic.

Dr. Ap Morgan Vance, of Louisville, had seen a good many cases of traumatic tetanus, but never saw but one get well, which case he reported.

Dr. J. G. Carpenter, of Stanford, favored nourishing his patients. He kept them drunk on whiskey, so as to relax the spasms. One ounce of bromide of potassium in twenty-four hours had cured many cases.

Dr. J. G. Brooks, of Paducah, reported a case of traumatic tetanus which occurred in his practice while in the Hawaiian Islands. The subject was a Chinaman, who was nearly dying, and it was a case demanding kill-or-cure treatment, as the man was suffering terribly and begging to be killed. He gave him five grains of morphia, hypodermically. The next morning he was awakened by a crowd of Chinamen, who announced to him that the man was much improved. Two years later he was still all right.

Dr. J. A. Larrabee, of Louisville, said that he had had nine cases, four successful, and all children. He thoroughly believed that any case would yield to bromide of potassium, provided the remedy was given in sufficient dose. To the educated physician dosage is simply a botheration. He knows the physiological action and gives for results. The pathology of the disease is unknown.

Dr. Dudley S. Reynolds, of Louisville, was surprised to hear that any one thought the pathology of traumatic tetanus unknown. It was settled at the Second French Congress of Surgery, which met in Paris in 1886, by Professor Cornil, who presented the streptococcus as the cause, and his demonstration was so perfect that the Congress coincided totally with his belief. This great discovery should not be passed over lightly.

Dr. J. M. Matthews, of Louisville, thought the pathology of traumatic tetanus still very unsettled. He believed there was more to be learned by the report of cases. In one case he had given bromide of potassium, in sixty-grain doses, every second hour, for seven days, and continued the dose at greater intervals. At the end of three weeks the patient was able to go home.

THE MANAGEMENT OF WOUNDS

was the subject of a paper by Dr. C. C. Skinner, of Louisville. He favored irrigation.

Dr. T. Hunt Stuckey, of Louisville, thought that in some cases, circumcision for instance, irrigation favored œdema. He thought the dry dressing better in this case.

THE REPORT ON OTOLOGY

was made by Dr. J. M. Ray, of Louisville. He thought that medical men were now giving more time and attention to ear diseases. Many still treat the ear without giving the nose and throat especial study. The death of prominent men from diseases of these parts has called attention to these troubles.

Dr. J. G. Carpenter, of Stanford, thought the more aseptic and antiseptic we were the sooner will these troubles heal.

Dr. John Young Brown, of Henderson, reported a case of

OPERATION FOR IMPERMEABLE STRICTURE.

Dr. J. M. Foster, of Richmond, thought that the time was near when external urethrotomy would be a more common operation.

Dr. A. W. Johnstone said, Coxe's operation, though difficult, was not so much so as most men thought. He had made it three times, and all patients were living. A little courage was necessary. He was in favor of the use of the aspirator and trocar in some cases.

Dr. W. L. Rodman, of Louisville, favored the use of the aspirator.

"Ovarian Prolapse" was the subject of a paper by Dr. E. S. McKee, of Cincinnati.

A CASE OF TUBAL PREGNANCY WHICH ADVANCED TO TERM WITHOUT RUPTURE

was the subject of a report by Dr. A. Dixon, of Henderson. The case was one of exceptional difficulties of diagnosis. There was an enlargement which he thought an ovarian cystoma. He determined to make an exploratory laparotomy, and, to his surprise, opened up a sac which contained a macerated fœtus at full term. The post-mortem showed a case of tubal pregnancy, with no trace of any rupture. The case was a very rare one, and some deny the possibility of such occurring.

A case of "Tubal Pregnancy" was also reported by Dr. Charles M. Mann, of Nicholasville. His case resulted fatally, and a post-mortem was held.

A CASE OF EXTRA-UTERINE PREGNANCY

was reported by Dr. J. B. Evans, of Riley's Station. He was of the opinion that the ovule can become impregnated before it reaches the Fallopian tube, and then get into the abdomen. He believes the Fallopian tube can be contracted till it will admit of the passage of the spermatozoids, but not of the ovule. He reported a case of extra-uterine pregnancy in which a patient suffered long with peritonitis, and passed fœtal bones and other structures per rectum.

Dr. W. H. Wathen thought the case of Dr. Dixon unique, and could not see how it could possibly occur

that an extra-uterine pregnancy could be carried in the tube for this length of time. The tube walls are so thin and weak that by the twelfth week the tube ruptures, and the fœtus escapes into the abdominal cavity. He was sorry that Dr. Dixon did not make a thorough examination of the lining of the sac. He agreed with Tait that there was no possibility of an extra-uterine pregnancy unless it occurred in the tube, with possibly a chance for an ovarian pregnancy. It is utterly ridiculous to talk of an abdominal pregnancy occurring primarily. It has never occurred, and it never will occur. Extra-uterine pregnancy is tubal primarily. We have the electrical treatment and the operative treatment. He does not believe it possible to absolutely diagnose extra-uterine pregnancy before the twelfth week. It is mere guess-work before this time. He reported cases where physicians had fallen into error in diagnosing extra-uterine pregnancy when it was intra-uterine. He argued against the treatment by electricity, and said the only treatment was, when rupture occurs, operate at once and treat the case antiseptically. If it does not rupture, then laparotomy is the treatment.

Dr. J. G. Cecil could not understand how it was possible for Dr. Dixon's case to go on as he thinks it did. He thought a very fine dissection and microscopical examination would be necessary to substantiate the diagnosis. He could not agree with Drs. Wathen and Tait that there can be no primary cause of abdominal pregnancy. Undoubted cases are on record, and Tait is aware of them but fails to refer to them in his book. He thought the only thing which could be done was to perform abdominal section. The subject was further discussed by Drs. J. M. Foster, of Richmond, and E. S. McKee, of Cincinnati.

THE REPORT ON THE PROGRESS IN OBSTETRICS

was made by Dr. J. G. Cecil, of Louisville. He discussed in an able manner antiseptics in obstetrics, the delivery of the aftercoming head, in which he would hasten the delivery of the head with the forceps, even at the expense of the perineum and cervix. He discussed the third stage of labor, and the methods of Crédé and Ahlfield. He mentioned Berry Hart's theory, and recommended a compromise between Crédé and Ahlfield. He waits till the placenta separates, then, if there is any delay, uses Crédé's method. He discussed Cæsarean section *vs.* ovariotomy, and quoted from Busey's paper that the former was proper in all cases where the child was living. He favored abdominal section over electricity in extra-uterine pregnancy.

THE REPORT ON GYNECOLOGY

was made by Dr. W. H. Wathen, of Louisville. He confined his remarks to pelvic hæmatocele. He referred to the generally accepted definition of hæmatocele, viz., blood-tumor in the pelvis encapsuled within or without the peritoneal cavity. He said that all pelvic hæmatoceles were extra-peritoneal, and thus it is not possible for hemorrhage into the peritoneal cavity to become rapidly encysted so as to form a fixed tumor in the pelvic or the abdominal cavity; that the blood is mixed with lymph and coagulates so slowly that it is not confined in any one place in the cavity, but changes its position upon the movements of the body, obeying the laws of gravitation; that the blood could not be confined by a layer of effused lymph immediately above it; and that, if the hemorrhage into the cavity is at all considerable, death would probably result before it could be confined by adhesions of the superimposed intestines. Intra-peritoneal hemorrhage is nearly always fatal. Mr. Tait has seen nearly one hundred cases, and they all died except two, upon whom he did abdominal section. He referred to the fact that the blood never becomes encysted in intra-peritoneal hemorrhage from defective ligation in laparotomy for removal of the tubes, ovaries, etc. He gave as causes of encapsulated hæmatocele sudden metrostaxes of normal menstruation or of pseudo-menstruation following abdominal or pelvic operations and rupture of a tubal pregnancy. He said that intra-peritoneal hemorrhage is really always caused by primary or secondary rupture of ectopic gestation.

The tumor may extend out of the pelvis, and even as high up as the umbilicus, in extra-peritoneal hæmatocele. The peritoneum is a tough and elastic membrane, not readily ruptured, yet so easily separated from its attachments that hemorrhage in the loose pelvic connective-tissue may dissect up the tissue under the peritoneum between the broad ligaments, between the rectum and vagina, from around the rectum, from the sides of the pelvis, and from the anterior abdominal wall. In hemorrhage into the cavity of the peritoneum no well-defined tumor or fixation of the uterus can be felt in a bimanual examination; while in pelvic hæmatocele the symptoms are nearly pathognomonic.

He gave the symptoms and diagnosis of hæmotocele, and advised against surgical interference, unless the sac ruptures into the peritoneum or suppuration is imminent. If the fluctuation can be detected from below, he recommended making an opening giving free drainage in the vaginal vault, and if fluctuation is well marked above the pelvis, or ruptures occur into the peritoneum, an abdominal section should be done.

LARYNGEAL SYPHILIS

was the subject of a paper read by Dr. A. B. Thrasher, of Cincinnati. He said little difficulty would be experienced in the majority of cases, but occasionally the most skilful diagnosticians would be puzzled. The diseases most likely to be confounded with syphilis of the larynx are tubercle, cancer, and lupus.

In tubercle, and especially cancer, there is more pain than in syphilis. In cancer the pain is lancinating and radiates to the ear, and may be felt at any time. The voice is more changed in cancer and tuberculous disease. The classical pathognomonic syphilitic voice is usually more easily recognized when the acute observer has detected syphilis previously. Cough is much more pronounced in phthisis than in either the other conditions. Deglutition is more impeded in tuberculous or cancerous ulceration. The syphilitic ulcer develops rapidly in a few days, the cancerous requires weeks, and the tuberculous months. Syphilis attacks, preferably, the upper surface of the epiglottis, tubercle the under surface, cancer the ventricular band. In syphilis there is a solitary serpiginous ulcer with sharp edges, surrounded by an areola of hyperæmia; in tubercle there are numerous small, shallow ulcers, or these have run together forming a large ulcer with ragged, "nibbled" edges; the cancerous ulcer appears on the summit of an angry tumor, and is surrounded by highly inflamed tissue. In tubercle there is, as a rule, anæmia of pharyngeal and laryngeal mucosa, while hyperæmia is the rule in the other affections. Enlargement of cervical glands, anterior and posterior, is an indication of syphilis, and is either absent or not so marked in the other affections. Lupus of larynx might be mistaken for syphilis, yet the disease is so rare as not to fall within the observation of most laryngologists. When the only manifestation of lupus is in the larynx the administration of anti-syphilitic remedies might be required to insure the diagnosis.

THE REPORT ON SURGERY

was made by Dr. W. L. Rodman, of Louisville. The doctor in looking over the work in this department during the past year found himself surrounded by an embarrassment of riches. Senn's hydrogen-gas test he considered conspicuously the most brilliant, as it is perhaps the most useful. Gas finds its way out of the wound if there be perforation, and burns with a bluish flame. The twelve propositions of Senn were given. Senn's discovery has greatly increased the interest in penetrating wounds of the abdomen, and in the results we find much to cheer us. Suprapubic lithotomy has gained much in favor during the past year. Epicystotomy has every advantage for tumors and foreign bodies. The new cystoscope of Neitz and Leiter has rendered the diagnosis of tumors of the bladder comparatively easy. In cystitis of the female

More Madden, of Dublin, has recommended the dilatation of the urethra, then curette the proliferating mucous membrane and apply carbolic acid over its entire surface. In iliac abscess it seems that early operation promises the most. Dermoid cyst of the neck has been recently operated upon by Keetley, of London, by cutting away a portion of the cyst-wall suturing it to the neck, and stuffing it with gauze after cleansing it thoroughly. This has resulted well in his hands, and is certainly quicker and safer. Whitehead's method of operating for piles has here and there gained an earnest advocate, but will hardly supersede the ligature. Piles with prolapsus can perhaps be operated upon by Whitehead's method with the best advantage. Alexander's operation has fallen into disuse. It can only do good in cases of retroversion with fixation. Dr. Dudley, of New York, has recently described a new operation for rupture of the perineum. In the treatment of carbuncles Edmund Owen, of London, uses erasion. He cuts away all slough and undermined skin, scrapes thoroughly with a Volkmann's spoon, and dresses it antiseptically. In this way a painful and septic mass is converted into a painless and aseptic one. Excision of carbuncles is advocated by Gerster and others. The doctor considered it probably the best means of treating them. Cooles, of Dublin, has shown that changing from the horizontal to the sitting posture in injuries to patients with fracture of the bones of the lower extremities is very injurious. A new treatment of aneurisms has been suggested by Macewen. It consists of the introduction of needles into the sac till they reach the endothelial lining of the opposite wall. The oscillation of the needle scratches the endothelium and causes proliferation of the leucocytes, which are said to form a firm, fibrous mass. Pneumonotomy is gaining laurels for pulmonary abscess, fifty per cent. of the cases being successful. Pneumonectomy has met with such success in the lower animals that it is recommended in man. One lobe or a lung may be excised. It is thought that the minimal respiratory area compatible with life and health amounts to two pulmonary lobes. The past year has witnessed many sharp discussions as to the comparative merits of ether and chloroform. The latter has not suffered by the comparison. It is not desirable that one should supplant the other, as we need them both. One is good in some cases and inferior in others.

RECENT ADVANCES IN THE DIAGNOSIS AND TREATMENT OF TUBERCULOSIS

was the subject of a paper by Dr. F. C. Wilson, of Louisville. He referred to the frequency and distribution of the disease and the various methods of treating it, and the numerous instruments and apparatus for the same. He discussed Weigert's method of treating tuberculosis by breathing air at a temperature of 400 or 500 degrees Fahrenheit. He considered the ability of the patient to do this without harm to the tissues a marvel, but it was nevertheless true. He had not yet tried it, but he meant to do so. He favored the disinfection of every particle of the sputa, and great care to avoid infection of nurse or husband or wife.

Dr. J. N. McCormac, of Bowling Green, insisted on the disinfection or destruction of the sputa. For some time the Kentucky State Board of Health, of which he is secretary, has been distributing both to the laity and physicians, literature to the effect that tuberculous patients should be isolated and the sputa destroyed or disinfected. It is preferable to have the patient expectorate on paper and then burn the paper.

Dr. J. A. Larrabee, of Louisville, thought if the contagion was so great as described we should have more cases, especially of physicians who are treating laryngeal phthisis. At Brompton Hospital there are 4,000 persons treated annually, and no one of the physicians or nurses has contracted the disease. Mouth-breathing he thought one of the great causes of tuberculosis, that is, the shallow breathing which follows mouth-breathing.

THE TRANSMISSIBILITY OF TUBERCULOSIS

from the lower animals to man was the subject discussed by Dr. J. A. Ouchterlony, of Louisville, in a paper of considerable length and learning. This question was intimately connected with the subject of the infectiousness of the disease. The power of the bacillus to resist antiseptics is astonishing. Corrosive sublimate does not destroy the bacillus, even at the strength of 1 : 500. The theory of inheritance has been thoroughly shaken by the discovery of the bacillus. Tuberculosis is rarely if ever congenital, but acquired. If the former theory were true, the prospects of the removal would be remote indeed. If the latter be true, the prospects for the eradication of the disease are bright. We have clinical proof also that the disease is not congenital. The object of the paper was to show that tuberculosis could be transmitted from the lower animals to man. There can be no security from tuberculosis so long as tuberculous meat and milk are used. The disease is contagious, infectious, and not congenital. It is transmissible, especially through the alimentary canal and respiratory tract. Rabbits kept near tuberculous patients contract the disease in twenty-seven days. Rabbits suspended in cages so as to breathe the air exhaled by tuberculous cattle contract tuberculosis. The lungs are the primary seat of the infection. It may be contracted through the integument, mucous membrane, abraded epidermis, wounded and abraded surfaces. Tuberculosis in dumb animals is identical with tuberculosis in man. Transmissibility to other species is very frequent. The medical profession should inform the public of the condition of affairs and insist on the control of the meat and milk.

Speeches warmly commending the ideas presented in this paper were made by Drs. Reynolds, McCormac, and Carpenter; and on motion a committee, consisting of Drs. J. N. McCormac, Bowling Green; Dudley S. Reynolds, Louisville; John A. Ouchterlony, Louisville; and Wm. Bailey, Louisville, was appointed to bring this subject before the public.

THE IMPORTANCE OF RECTAL EXAMINATIONS TO LIFE INSURANCE COMPANIES

was a subject dealt with by Dr. Joseph M. Matthews, of Louisville. He considered it of great interest to life-insurance companies, and to those insured in them, that the examination be as thorough as possible. Most companies understand this, and have a long list of questions and examinations through which the applicant must go before he is admitted. No company, to his knowledge, requires a rectal examination. Many rectal diseases are incurable, and often fatal. The only thing the insurance companies do is to, in some instances, ask the question, Have you had piles or fistulæ. Piles and fistulæ are generally not very serious to life, and some other rectal diseases are. The doctor reported a number of cases which had come under his observation where insurance companies had lost money after a short period of insurance by neglecting the precaution of having a rectal examination made. The responsibility of the medical examiner for life insurance is a very grave one, and is too often overlooked. There are diseases affecting this portion of the body which are wholly unrecognizable save by a careful examination and the exploration of the rectum. There are diseases self-limited, incurable, and always fatal. The interim between their incipiency and full development is so vaguely marked, and the insidiousness so obscure, that nothing less than a full exploration will reveal their nature. If in this interim the patient were to apply for a life insurance policy he would probably be received into the company.

Dr. F. C. Wilson, of Louisville, thought it a delicate matter to ask this examination. It was with great reluctance that examination of the urine was introduced, but now no first class company fails to ask it, and it has saved them much money. He favored a middle ground. Question the patient, and if anything was found indicating trouble of this nature then make the examination.

THE PROGRESS MADE IN THE ENFORCEMENT OF THE NEW MEDICAL PRACTICE ACT

was the subject of a paper read by Dr. J. N. McCormac, Secretary of the State Board of Health. This has proven one of the most popular general laws ever passed in the State. Registration in most of the counties had been complete. Large numbers of charlatans, being unable to comply with the very reasonable and conservative provisions of the statute, had been compelled to leave the State, and scores of irregulars from all parts of the Union had been refused permission to practise in Kentucky. As was to be expected, the principal difficulty in its enforcement will occur in Louisville. The physicians of that city are making an organized effort to secure its strict enforcement, and there can be little doubt as to the final result. After the first of January he would publish an official medical directory of the State, giving the name, age, place of birth, address, and place and date of graduation of each physician in the State.

At the conclusion of the report the Society appropriated all the surplus in the treasury to be used, if the necessity occurs, to assist the physicians of any county where the law might be resisted, in enforcing its provisions.

"Syphilitic Ulceration of the Upper Air-passages" was the subject handled in an excellent manner by Dr. M. F. Coomes, of Louisville.

"Report on the Progress of Medicine" was made by Dr. J. W. Gilbert, of Lawrenceburg.

"Laparotomy for Penetrating Shot-wound of the Abdomen," by Dr. David Barrow, of Lexington.

"The Report on Vital Statistics" was made by Dr. T. B. Greenley, of West Point.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

ABDOMINAL PALPATION OF THE PLACENTA—OPERATIVE INTERFERENCE FOR SUPPURATION IN THE NEIGHBORHOOD OF THE CÆCUM—THE CROONIAN LECTURES AT THE COLLEGE OF PHYSICIANS—THE RELATIONSHIP BETWEEN CHEMICAL STRUCTURE AND PHYSIOLOGICAL ACTION—SHORTHAND FOR MEDICAL STUDENTS—DEATH OF DR. WOOLDRIDGE—DR. QUAIN, F.R.S.

London, June 18, 1889.

An interesting subject was discussed at the last meeting of the Obstetrical Society, viz., the possibility of determining the position of the placenta by means of abdominal palpation, and especially in cases of placenta prævia. A paper on the subject was read by Dr. Herbert Spencer, Assistant Obstetric Physician to University College Hospital. Two cases were described in which the author had been able to determine the site of the placenta by abdominal palpation, when it was situated in the upper segment of the uterus, and seven cases of placenta prævia were then described, in which the author had been able by abdominal palpation to diagnose the presence of the placenta in, or its absence from, the front wall of the lower segment of the uterus before a vaginal examination was undertaken, the diagnosis being verified afterward by vaginal and intra-uterine examination. All the seven cases were those of multiparæ, with head presentations, and the observations were made before the membranes were ruptured, without anæsthesia, and in the absence of pains. In three of the cases the exact site of the placenta on the front wall of the lower segment was ascertained by this method, and in two of these the placenta was felt at a time when it was impossible to feel it by the vagina. In the other four cases the placenta was diagnosed by abdominal palpation to be absent from the front wall. Dr. Spencer recommended that the examination should be made with the patient lying on her back, the bladder having previously been emptied; that it should be gentle, made in the absence of pains, and prolonged over several minutes, or, if necessary, repeated. The following conclusions had been arrived at by the author: In an ordinary vertex presentation (placenta in the upper segment), the occiput, forehead (at a higher level), and side of the head could, under favorable circumstances, be distinctly felt in the lower segment of the uterus by means of abdominal palpation. In a case of placenta prævia in which the head presented, the head was not felt where the placenta was situated, but was distinctly felt where the placenta was absent. When in front, the placenta was felt as an elastic mass of the consistence of a wetted bath-sponge, which kept the examining fingers off the head. Its edge might be felt, and had the shape of the segment of a circle. Within the circle all was obscure to the touch; outside the circle the head or other part of the child was plainly felt. Impulses to the head were not clearly felt through the placenta; impulses to the head through the placenta were distinctly felt at the spot from which the placenta was absent. The same applied to combined vaginal and abdominal examination.

A somewhat wandering discussion followed the reading of Dr. Spencer's paper. Dr. Braxton Hicks remarked that in one case of placenta prævia he had diagnosed the position some weeks before it was confirmed during delivery. Dr. Barnes said it had been observed that when the placenta was seated in the upper zones, and in front of the uterus, the uterine wall was thickened, and raised at the area of placental attachment, forming a hillock, which rose above the level of the smooth surface of the uterus. This was also confirmed by auscultation. Dr. Mathews Duncan said he had never succeeded with placental palpation. Placenta prævia was not the best condition to study it; far more favorable were the conditions of advanced healthy pregnancy in a multipara with a relaxed uterus and a thin abdominal wall. Dr. Champneys remarked that the value of Dr. Spencer's paper lay in the subsequent verification of the diagnosis made by palpation, though the cases were few. He believed auscultation was no guide whatever to the situation of the placenta. Dr. Herman observed that such placenta as those described by Dr. Spencer were the exception, and, as Müller had demonstrated, were generally thinner than usual and expanded.

At the last meeting of the Medical and Chirurgical Society an interesting communication was made by Sir Dyce Duckworth and Mr. John Langton. A boy was admitted into hospital with symptoms indicative of acute suppuration in the neighborhood of the cæcum. An operation was performed and the appendix vermiformis (which was gangrenous and also contained a fecal concretion) was removed. Some days later, in consequence of symptoms pointing to a fresh suppurative peritonitis on the left side, a median laparotomy was performed, and a collection of several ounces of pus was found in a large cavity bounded by agglutinated intestines. The abscess cavity extended deeply into the pelvic cavity. The patient made a complete, though tardy, recovery. The authors urged the importance of early operation when suppuration in the neighborhood of the cæcum was suspected, and the more so in cases of young adults as the cause was often the presence of some foreign substance in the appendix. They also spoke of the value of making the incision in the right linea semilunaris, as being more directly situated over the seat of the lesion than one made in the middle line.

The Croonian Lectures at the College of Physicians are now in course of delivery, Dr. Lauder Brunton being the lecturer for the present year, and the subject chosen by him being "The Relation between Chemical Structure and Physiological Action." In his first lecture he employed two homely similes to illustrate how either a rearrangement of, or a trifling alteration in, the chemical constituents of an organic compound might greatly change its nature. A closed pocket-knife was, he said, a harmless plaything; by opening one of the blades it was converted

into a dangerous weapon. The composition of the knife was exactly the same as before, but the relation of the parts to one another had been altered. So in chemistry, an alteration in the relation of the parts converted the comparatively harmless nitrile into the deadly isonitrile or carbylamine. By means of graphic formulæ we could represent diagrammatically the relative position of the atoms in a compound. Comparing ordinary formulæ with words, the lecturer remarked that, as with a comparatively small number of letters of the alphabet we were able to form a great number of words and to represent a great number of ideas, so, with a small number of elements we could form many compounds. Slight alterations in the composition of words, the introduction or abstraction of a single letter, would often completely change their meaning, and slight alterations in chemical substances would change their properties. By altering the arrangement of the letters we converted "room" into "moor," and thus got a very different idea. By making a slight addition to "moor" we got "Moorish," a word which, instead of conveying a sense of bleakness and coldness, brought before the mind ideas of oriental grandeur, sunshine, and activity. Similarly, in studying the physiological action of various chemical substances, we found that while usually certain alterations or additions only modified the action of the radical to a slight extent, yet now and again we met with cases where slight modifications produced an altogether unexpected effect. Thus sodium acetate had a very slight physiological action, but when one atom of hydrogen in the acetic-acid was replaced by bromine the result was mono-bromo-acetate of soda, which had a most remarkable action upon the muscles of the frog, rendering them rigid. Another example was phenol and aniline, both of which were markedly poisonous, but ortho-amido-phenol was innocuous.

The value of shorthand to medical students was recently brought before the General Medical Council by Sir Dyce Duckworth, who, however, was not the best advocate that could have been chosen, seeing that he is not himself a stenographer. With a view to ventilating the subject more fully, however, a committee has been formed, consisting of Sir Dyce Duckworth, Mr. Howard Marsh, Dr. Gowers, and Dr. Coupland. Some, at least, of these gentlemen are experienced shorthand writers. It is proposed to hold voluntary examinations among medical students and to offer prizes for proficiency.

I regret to record the very sudden illness and death of Dr. Wooldridge, Assistant Physician to Guy's Hospital, at the early age of thirty-one. Dr. Wooldridge was a Doctor, both of Science and of Medicine, of the University of London, and was favorably known as a rising physiologist.

Dr. Richard Quain, F.R.S., the projector and editor of "Quain's Dictionary of Medicine," has been appointed Physician Extraordinary to the Queen.

## OUR PARIS LETTER.

(From our Special Correspondent.)

GOOD NEWS FOR THE OLD FELLOWS—HOW TO MAKE THE OLD YOUNG AGAIN—REJUVENATION FROM HYPODERMATIC INJECTION OF TRITURATED TESTICLES—A NEW THEORY REGARDING MASTURBATION—LAVAGE OF THE PERITONEUM—THE ANTISEPTIC PROPERTIES OF THE HYDROCHLORATE OF PHENYLHYDRAZINE.

PARIS, June 28, 1889.

PROFESSOR BROWN-SÉQUARD has lately made a most extraordinary communication to the Société de Biologie of Paris, and to the Academy of Sciences, to the effect that he had obtained marvellous results by the injection into the subcutaneous cellular tissue of a liquid produced by the trituration of the testicles of young animals. M. Brown-Séquard declared that during the last ten years his general vigor had notably diminished, even more so than he had reason to expect, although he is in his seventy-third year. He was obliged to sit down after half an hour's work in a standing position in his laboratory, which he always left completely exhausted after having worked for two, three, or four hours in a sitting posture. To the great astonishment of all his assistants, he was able to work for nearly four hours, without feeling the necessity to rest himself, after the second injection that he had practised on himself; the bladder and the large intestine had also notably gained in strength. With the dynamometer he ascertained an incontestable augmentation of the strength of the limbs. Although he is now submitted to greater causes of fatigue than formerly, in the laboratory, he is no longer obliged, as was his wont, during the last ten years, to lie down, after meals which he took rather hastily in returning from his work of experimentation. Moreover, he affirmed that his intellectual work has become more easy, and that he has regained in this respect all that he had lost for several years. In other respects, also, he experienced a rejuvenescence of all his forces, physical and psychic, forces which had not been lost, but diminished, owing to advancing age. In short, he found himself possessed of the same vigor as he had enjoyed thirty years before. This communication has caused some sensation in the medical and lay press, and it has been pertinently asked by some writers in the latter why Professor Brown-Séquard gave the preference to the testicles of the guinea-pig to those of other animals for the composition he employed for the subcutaneous injections, and one of them suggested that it was perhaps owing to the prolific nature of these animals. At a subsequent meeting of the Society, Dr. Brown-Séquard endeavored to prove that the activity of the spermatic and physical and psychical vigor are connected, and in cases of senile impotence he recommends masturbation, to be practised once or twice a week, but in an incomplete manner; that is to say, it should not be allowed to be followed by ejaculation, although sufficient to produce some venereal spasm. Dr. Brown-Séquard had recently occasion to recommend this extraordinary practice to two gentlemen, one a solicitor and the other a notary, aged respectively fifty-eight and sixty-five years, who complained of premature loss of their venereal powers. Their genital organs were in a good state, and under the influence of this practice they partially recuperated their physical and intellectual forces. This result he could only attribute to the resorption by the organism of the products of secretion of the spermatic gland, but how long it will last, time alone will tell. This communication, made by such an eminent physiologist, was too much even for French modesty, and the lay press in particular was most severe in its criticisms against the author, condemning the remedy prescribed by him as being unphysiological and immoral. One writer suggested that Dr. Brown-Séquard ought to be reminded that senile atrophy, at the decline of life, invades all the organs, being a fatal consequence of the degeneration of the tissues of the heart; and that it is not by inoculation, even with the manufactured liquid extracted from the testicles of the guinea-pig, or any other animal, that one could hope to remedy this alteration.

Professor Trélat lately submitted to the Academy of Medicine the experimental researches of Dr. Delbet, Prosector, on "lavage," or washing out of the peritoneum. Dr. Delbet at first endeavored to determine the extent of the peritoneum which is bathed by the liquid in the lavage, then made an estimate of the quantity of liquid which remains in the peritoneum. Under the influence of the lavage neither the respiration nor the circulation appeared to be affected. Dr. Delbet then ascertained that the absorbing power of the peritoneum was considerable, liquids were absorbed with great facility and rapidity in the first twenty or thirty minutes. The liquid injected passes into the circulation, then, when the blood is super-hydrated, this power is arrested. There is then a moment which may be taken advantage of to pass without danger toxic substances into the peritoneal cavity. This view is absolutely confirmed by the following experiment: The author injected into the peritoneal cavity of a

dog a solution of the sulphate of strychnine, the animal was soon seized with convulsions and died in about five minutes. In another dog he repeated the same experiment after having previously injected a saline solution composed of seven per cent. of the chloride of sodium; the animal did not present any symptoms whatever of intoxication. This is owing to the fact that the serous membrane, having absorbed the first liquid, could not absorb the second. The knowledge of this property of the peritoneum is important, and leads to the conclusion that it will be possible, in surgical practice, to wash this membrane with antiseptic substances, a practice that surgeons had not dared to attempt till now.

Dr. Janet relates in the *Courrier Médical* a very grave and very curious case of hysteria. At the age of twenty years, a young girl who had already presented several manifestations of hysteria, was affected with absolute dysphagia. Nourished by a tube, she soon fell off in flesh, as she rejected the aliments ingested. Dr. Janet then treated her by hypnotism, and during the periods of sleep he was enabled to make her eat, but while she was awake the dysphagia returned. The doctor then adopted the plan of leaving her nearly all the time under the influence of the hypnotic sleep. There was created in this girl a sort of double existence, waking and hypnotic sleep. This latter existence appeared to get the better of her and to substitute itself for the first personality. Since the month of January last, this girl is under the influence of hypnosis and feels quite well, following her occupations as usual, and not suffering from dysphagia.

Dr. Marpmann draws attention to the antiseptic properties of the hydrochlorate of phenylhydrazine; added to milk in the proportion of 1 per 1,000, it preserves this liquid several days. It may not be applied to the preservation of alimentary substances, on account of its disagreeable savor and its toxic properties, when it is employed in any quantity. This antiseptic may replace the bichloride of mercury in medical practice. It does not precipitate milk, pus, albumen, gum, solutions of sugar, and consequently it presents an advantage over corrosive sublimate, which precipitates albuminous solutions.

## CAN NASO-PHARYNGEAL CATARRH BE CURED?

To the Editor of The Medical Record.

Sir: "B. R.," in The Medical Record of May 25th, seems inclined to look on my question as displaying a lack of appreciation of the many factors entering into the causation and aggravation of naso-pharyngeal catarrh. I will acknowledge the truth of his statements, but I think the question admits of a more definite reply than the one he gives, and if I interpret the ownership of the initials aright, I think "B. R." himself can, from his own experience, give such a reply.

That every organ in the body has a greater or less influence on every other requires no medical knowledge to assert. The amount and character of such influence in the individual case does require this knowledge.

The exciting cause of catarrh being a common cold (of course the predisposing cause, local or constitutional, is presupposed), the continuing cause may be a local malformation, chronic bronchial or pulmonic irritation, disease of the sexual organs, deficient activity of the excretory organs, feeble circulation with consequent cold extremities, any continuing irritation of the mucous tract below the pharynx, unhygienic habits or surroundings, which may be many and various, and, finally, the by no means unimportant neurotic diathesis, which was the one touched on in the case as stated in my first letter.

The continuing causes just enumerated are a few of the more important (prominent, at least), though not at all the only ones, considering, as was stated above, the immediate corporeal and the scarcely less near physical and spiritual (in the broad sense) environment.

Now, supposing all the more prominent complications mentioned, save the last one—the nervous diathesis—to be absent in a given case, what then would be the treatment?

That there are not other factors, in even such selected cases, aggravating the disease under discussion, it would be folly to say; but that the principal reason for the chronicity of the trouble in some patients is the nervous diathesis present, must, I think, be admitted.

Persons of such a type going to the more elevated districts, and breathing the rarer, and, consequently, dryer and more stimulating air, will find that any disease of the respiratory organs from which they may be suffering will be aggravated.

My own belief, of course, shared in common with others, is that, in this type, the only course which promises any amount of relief approaching to a cure lies in a change of climate. A mild, equable climate in a region near the sea, and near the sea-level, is the one to be sought.

By such means the constantly high-strung nervous system is placed in the least irritating surroundings, every part of the system drops more nearly to a healthy normal activity, and a little of nature's great healer, rest, is obtained by the mucous membrane of the nose and throat along with the other organs.

But this is not medical treatment in the common acceptation, and not one patient in twenty is able to seek the climate suitable to his condition.

What, then, is the best thing to do if the patient must remain in the unfavorable climate? The question asked of these specialists of much experience is not What would you do with this class of catarrhs? but What do you do with them?

As a matter of course, treatment is not restricted to local applications, but to be scientific must attack at any point presenting appearances of vulnerability. We will also predicate that it is the individual whom we are to treat, and that the disease is not to be attacked in exactly the same way we would attack an enemy trying to scale the walls of a fort. Without further explanations I will say that if any one is kind enough to reply to this, I hope that he will not devote any time to dissecting my article, but will charitably forego that easy pleasure and give his pen entirely to the question asked. I would refer such a one to my letter in The Medical Record of May 18th for a more explicit statement of the exact variety of naso-pharyngeal catarrh about which inquiry is made.

G. P. Head, M. D.

## THE INTERNAL USE OF CHLOROFORM.

To the Editor of The Medical Record.

Sir: Your editorial "On the Internal Use of Chloroform," in the No. for the 8th ult., and the many articles that have lately appeared in the medical journals on that subject, all advocating the use of the remedy in small and largely diluted doses, prompt me to call attention to an article "On the Use of Chloroform as an Internal Remedy," by A. P. Merrill, M.D., of Memphis, in *The American Journal of the Medical Sciences*, October, 1865. Dr. Merrill advises its administration in large (teaspoonful and even greater) doses and undiluted, in many cases of disease, especially "in every kind of convulsive movement," and in the "chill stage of all fever, in its most fatal and epidemic form." Let me quote a few passages from this paper: "Objection is sometimes made to the introduction of unmixed chloroform into the stomach, on account of its highly excitant quality. But experience proves it to be much less stimulating to the mucous membrane than to the skin, and in no case have I observed anything more than very temporary effects upon the mouth and throat, which soon subside. The vehicles we are advised to employ in its administration can only hold the remedy in temporary suspension, and in most of the cases requiring large doses it is quite impossible for the patient to swallow them. Sometimes a single drop falling

into the folds of the neck will cause vesication, while a fluidrachm passing into the stomach gives only a slight inconvenience by its stimulation of the mouth and throat. As in the administration of other remedies, the dose of chloroform must be varied according to the nature of the case, and more than with most other remedies may be the range of quantities given. I have administered it in doses of a single drop to two fluidrachms, and have sometimes repeated it at short intervals; and I have reason to believe that the cases of infantile convulsions in which I have given from one-half to a full drachm, might have been relieved in the inception of the disease by fifteen or twenty drops. But when convulsions have continued for an hour or more, the smaller doses will have no perceptible effect. Indeed, relief in such cases is obtained only by such quantity as will produce sleep. The sleep continues from one to four hours, and is sometimes followed by great restlessness and jactitation for an hour or more, when the patient is at ease again and sleep returns." Dr. Merrill gives particulars of fourteen cases in which a teaspoonful of undiluted chloroform was successfully administered, and in some of them the same dose was repeated in half an hour. The ages reported in these cases vary from a child of a year and a half to "an elderly lady, very fat and plethoric." Of these fourteen cases, five had convulsions, three had chills, two were poisoning by strychnine, and one each of asthma, sunstroke, epilepsy, and fit of cramp-colic. I will relate Case VI. as a "specimen brick:" "A child, aged about two years, was taken with a convulsion while riding in a little hand-carriage, supposed effect of a chill, although the child had not had chills previously. When I arrived her mother and others thought the fit had continued two hours. She had been several times in a hot bath. Sinapisms had been extensively applied, and a physician was administering chloroform by inhalation without effect. The pulse was hardly perceptible, the eyes open and bloodshot, pupils dilated, skin of a purple color, jaws clinched, fingers and toes tightly drawn inward, and the whole frame severily convulsed. I administered a teaspoonful of chloroform by the mouth, the physician present admonishing me of the probable violence to the mucous membrane and of her inability to swallow, and a few minutes afterward as much more was given by enema. Very soon she was quite relieved of all spasmodic action, and in a sound sleep. A dose of calomel at night, and quinine for several successive mornings, completed the cure." Since the publication of Dr. Merrill's article I have often prescribed chloroform in similar doses, and never with any unpleasant result, but have uniformly found it very serviceable in proper cases. For the distressing pain of congestive dysmenorrhœa I consider it a specific. It will give prompt relief from the awful agony of bilious colic, and in epileptic and infantile convulsions, it "acts like a charm." A teaspoonful of undiluted chloroform, followed by no drink of any kind, is a hot dose; but the pungent effect is but momentary. Finally; I would urge the readers of THE RECORD to give it a fair trial, confident that they will find it of vast service.

T. C. WALLACE, M.D.

CAMBRIDGE, N. Y., June 12, 1889.

ELECTROLYSIS IN STRICTURE OF THE URETHRA.—Dr. J. A. Fort, of Paris, France, writes: "In THE MEDICAL RECORD for April 13th I read, on page 418, an account of my operation on stricture of the urethra by electrolysis. It is stated in that article that one of my colleagues, Dr. Lavaux, recorded the frequency of relapses after this operation. In that statement there is a serious mistake which it is impossible for me to allow to pass without protest. This gentleman, Doctor of Medicine only for the last five months, never saw a single relapse after any of my operations, the relapses of which he speaks followed operations performed in a different manner and by other surgeons. I operate after a new method and possess notes of 550 cases, and I have not yet recorded a single certain relapse."

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from June 30 to July 13, 1889.*

TEN EYCK, BENJAMIN L,. First Lieutenant and Assistant Surgeon (recently appointed). By direction of the Acting Secretary of War, will proceed from New York City to Fort Leavenworth, Kan., and report for duty to the commanding officer of that post. Par. 2, S. O. 138, A. G. O., Washington, D. C., June 15, 1889.

CORSON, J. K., Major and Surgeon. Granted leave of absence for one month, with permission to apply for an extension of one month. Par. 2, S. O. 65, Headquarters Department of the Columbia. The above leave of absence extended one month. Par. 1, S. O. 45, Division of the Pacific, June 24, 1889.

HOFF, JOHN VAN R., Captain and Assistant Surgeon, is relieved from duty at Fort Reno, Ind. Ter., and ordered to Fort Riley, Kan. Par. 6, S. O. 145, A. G. O., Washington, D. C., June 24, 1889.

BACHE, DALLAS, Major and Surgeon, is relieved from duty at Fort Riley, Kan., and ordered to report to commanding general, Department of the Platte, for duty as medical director of that department. Par. 6, S. O. 145, A. G. O., Washington, D. C., June 24, 1889.

WOODRUFF, EZRA, Major and Surgeon. By direction of the Secretary of War is relieved from temporary duty at Fort Monroe, Va., and will report in person to the commanding officer at Fort Hamilton, N. Y., for duty at that station. Par. 5, S. O. 146, A. G. O., June 25, 1889.

FISHER, WALTER W. R., Captain and Assistant Surgeon. By direction of the Secretary of War, the extension of leave of absence granted in S. O. 41, June 12, 1889, Division of the Pacific, is still further extended fifteen days. Par. 8, S. O. 146, A. G. O., Washington, June 25, 1889.

CHAPIN, A. R., Captain and Assistant Surgeon. Leave of absence for twenty-five days, to commence on or about July 2, 1889, is granted. Par. 6, S. O. 145, Division of the Atlantic, June 27, 1889.

GIBSON, R. J., Captain and Assistant Surgeon. Reports arrival, July 2, 1889, at Camp Lewis, Fisher's Island, N. Y., in compliance with Par. 5, S. O. 133, Division of the Atlantic, which designated him as M. O. for the encampment (rifle practice) at Fisher's Island, N. Y.

CHERBONNIER, ANDREW V., Captain and Medical Storekeeper. By direction of the Secretary of War, will, in addition to his present duties, take charge of the office and perform the duties of Acting Assistant Medical Purveyor in St. Louis, Mo., during the absence of Captain George T. Beall, Medical Storekeeper. Par. 2, S. O. 151, A. G. O., July 2, 1889.

GORGAS, H. C., Captain and Assistant Surgeon. Leave of absence for one month is granted, to take effect on the arrival of a medical officer to relieve him. Par. 2, S O. 84, Headquarters Department of the Missouri, July 3, 1889.

BEALL, GEORGE T., Captain and Medical Storekeeper. By direction of the Secretary of War, leave of absence for two months is granted. Par. 8, S. O. 148, A. G. O., June 27, 1889.

MCPARLIN, THOMAS A., Colonel and Surgeon. By direction of the Acting Secretary of War his retirement from active service, this date, by operation of law, under the provisions of the Act of Congress approved June 30, 1882, is announced. Colonel McParlin will repair to his home. Par. 2, S. O. 157, A. G. O., July 10, 1889.

SMITH ANDREW K., Colonel and Surgeon. Promoted Surgeon, with rank of Colonel, to rank from July 10, 1889. Vice McParlin, retired.

TOWN FRANCIS L., Lieutenant-Colonel and Surgeon. Promoted Surgeon, with rank of Lieutenant-Colonel, to rank from July 10, 1889. Vice A. K. Smith, promoted.

PERLEY, H. O., Captain and Assistant Surgeon. Ordered to accompany troops from Fort Wayne, Mich., to Gognac Lake, Mich., to encamp there with the Michigan State troops, from August 8, to 13, 1889. Par. 1, S. O. 154, Headquarters Division of the Atlantic, July 9, 1889. Granted fourteen days' leave of absence, to commence about July 14, 1889. Par. 2, S. O. 154, Headquarters Division of the Atlantic, July 9, 1889.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending July* 13, 1889.

WHITE, S. STUART, Assistant Surgeon. Detached from the Trenton, July 7, 1889. Ordered to the Naval Hospital, Brooklyn, N. Y.

WHITE, C. H., Medical Inspector. Detached from the Trenton, and wait orders.

NORFLEET, ERNEST, Passed Assistant Surgeon. Detached from the Trenton, and to the Monocacy.

AMES, H. E., Passed Assistant Surgeon. Detached from the Monocacy, proceed home, and wait orders.

HARRISON, G. E. H., Surgeon. Detached from the Constellation, and to the Naval Academy.

LOWNDES, C. H. T., Assistant Surgeon. Detached from the Constellation, and to the Naval Academy.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 13, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 18 | 4 |
| Scarlet fever | 47 | 10 |
| Cerebro-spinal meningists | 2 | 3 |
| Measles | 49 | 4 |
| Diphtheria | 84 | 28 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE NORTHERN KANSAS MEDICAL SOCIETY held its fifth annual session at Seneca on the 9th inst. Dr. A. G. Edwards, of Marysville, read a paper on "Fractures and their Complications, of the Femur, Tibia, and Fibula." Dr. H. P. Porter, of Oneida, spoke on "The Disabilities of Old Soldiers." Dr. Grant Cullimore, of Atkinson, advocated, from successful experience, the use of the lead-coil pipe in cases of mastoiditis, through which iced water was caused to flow. In this connection the case of the Hon. Roscoe Conklin was instanced as a favorable one for successful treatment by this method. Dr. W. F. Richardson, of Havensville, reported a case of "Deafness following Measles." Specialists of Topeka and St. Joseph had treated this case without improvement. A gun was accidentally discharged in proximity to the child, when she exclaimed, "I can hear! I can hear!" The case was one in which there was thought to be collapse of the membrane, with slight adhesions, or possibly a closure, from like cause, of the Eustachian tube. Dr. M. M. Wachter, of Baileyville, read a paper on "Cholera Infantum." Dr. E. W. Bliss, of Hiawatha, reported a case of "Retention of Urine." The catheter had been used, but without relief. Paracentesis in the supra-pubic region effected the desired result. The cannula of a small trocar was left in the puncture for three days, when urine was voided through the natural channel, and complete recovery rapidly followed. He also spoke of a case of hernia now under treatment. Some three weeks ago he cut over a strangulated hernia, and found the bulk of the tumor omental; but a knuckle of the bowel was also found which was so tightly constricted that the abdominal ring had to be incised to effect reduction. The protruding omentum was ligated, cut off, and the stump left in the sutured wound, which yet remained unclosed. At 10 P.M. the proceedings became informal. The subject of advertising, such as giving cases to the public press, was freely discussed and forcibly condemned. Consultations with "irregulars" was also debated, and as severely censured. Resolutions on the death of Dr. C. J. Logie, of Hiawatha, were adopted, and the Society adjourned, to meet again at Seneca, on the 14th of November next. Dr. William Strayer, Secretary of the Society, in sending us a report of the meeting, writes: "Our membership extends from St. Joseph, Mo., to Fairbury, Neb. Some of the most prominent physicians of Northern Kansas are active members. We have been termed the 'rowdy West,' and it is likely the shoe fits when we wish to carry a political convention; but we believe that our medical societies, and especially the Northern Kansas, are conducted with as much dignity and decorum, and possibly as much erudition evinced, as some Eastern societies. Our Eastern brethren are better known to us than we are to them, and one reason for this is, that they are, or have been, more ambitious or enterprising than we in having their society proceedings published in journals that we both take."

THE REMOVAL OF HAIR BY ELECTROLYSIS.—Dr. Richard B. Faulkner, of Allegheny, Pa., writes: "Now that the use of electrolysis has become so common in the removal of facial blemishes, it seems prudent to advise the exercise of very great care in its application. The face is always a very important part. Should a surgeon accidentally mar its beauty, its financial value, as expressed in a suit for malpractice, cannot be estimated. To do no harm should be our first consideration; and the more important this matter becomes, as the more fastidious and aristocratic the bearer of the face happens to be. In the removal of hair, too much electric power, and needles of too large a size, will sometimes occasion minute cicatricial fibroid nodules, distinctly to be felt as little lumps; and I have no doubt will be plainly seen as age advances as elevations upon the lips of those from whom mustaches have been removed. Again, more electric power than just enough to remove the hair intended to be removed, will, in proportion, stimulate the growth of other hair in adjacent follicles. Care is always required that the positive current be not used, lest you bore a permanent hole in some fine lady's cheek. In the electrolytic removal of hair, moles, wine-marks, warts, etc., the mildest power that is capable of doing the work is the safest. The tension current is the electrolytic current. And it would be well if all writers would speak of the various cells used, as compared to the standard cell of Daniell. I use the excellent diamond carbon cell. Each cell equals 1.75 Daniell cells. Two to four diamond carbon cells are sufficient to remove hair; two to eight, moles; six to ten, wine-marks. Silver needles are the best conductors, and give the least pain. Cocaine solutions dry upon and crust the surface, and are inappropriate for dermal anæsthesia."

HEALTHY NEW YORK GIRLS.—Said a gentleman from a small country town in Massachusetts to me recently: "Talk about delicate New York women! Why, I see more healthy women on Fifth Avenue in two hours than I see in Massachusetts in a year."—*The Epoch.*

# The Medical Record

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## Original Articles.

### CONSIDERATIONS CONCERNING SOME EXTERNAL SOURCES OF INFECTION IN THEIR BEARING ON PREVENTIVE MEDICINE.[1]

BY WILLIAM H. WELCH, M.D.,

PROFESSOR OF PATHOLOGY IN JOHNS HOPKINS UNIVERSITY, BALTIMORE, MD.

No department of medicine has been cultivated in recent years with such zeal and with such fruitful results as that relating to the causes of infectious diseases. The most important of these results for preventive medicine and for the welfare of mankind is the knowledge that a large proportion of the causes of sickness and death are removable.

It is evident that efforts to preserve health will be most intelligently and effectually applied when they are based upon an accurate and full knowledge of the agencies which cause disease. Public and private hygiene, however, cannot, and, fortunately, has not waited for the full light of that day whose dawn has only begun to appear, when we shall have a clear insight into the causation of preventable diseases. Cleanliness and comfort demand that means shall be taken to render pure the ground on which we live, the air which we breathe, and the water and food with which we are supplied, and we must meet these needs without waiting to learn just what relation infectious agents bear to the earth, air, water, and food.

It is a fortunate circumstance that modern sanitation has been controlled so largely by the belief in the dependence of endemic and epidemic diseases upon organic impurities in the soil and in the water. Incomplete and even erroneous in many respects as are the views which have prevailed concerning the origin and spread of epidemic diseases by the decomposition of organic substances, the sanitary measures which have been directed toward the removal of filth have achieved great conquests in limiting the development and extension of many infectious diseases. The benefits which one commonwealth of this country has derived from the intelligent employment of public sanitary measures were clearly and forcibly presented before this Association, last year, by Dr. Walcott, in his admirable address on "State Medicine."

While nothing should be said, or need be said, to lessen the importance of cleanliness for public health, it is important to bear in mind that hygienic cleanliness and æsthetic cleanliness are not identical. In water which meets the most severe chemical tests of purity typhoid bacilli have been found. On the other hand, the air in the Berlin sewers, which certainly does not meet the most modest demands of æsthetic cleanliness, has been found to be nearly or quite free from bacteria.

It needs only to be stated to be generally admitted that the scientific basis of preventive medicine must be the accurate knowledge of the causative agents of preventable diseases, a knowledge which can be derived only from a careful study of all of the properties of these agents, the modes of their reception and of their elimination by the body, the circumstances which favor and those which retard or prevent their development and spread, their behavior in the various substances which surround us, or which we take into our bodies, and the sources of infection, not only those which laboratory experiments show to be possible, but those which are actually operative.

So long as we were unacquainted with the living organisms causing infection, the means at our disposal for studying the etiology of infectious diseases were limited to the observation of all of the circumstances which we could determine regarding the origin and spread of these diseases. We could only infer what might be the properties of the infectious agents from the study of phenomena often obscure and difficult of interpretation. Chiefly by this method of investigation the science of epidemiology has been built up. It has established facts and laws no less of practical than of scientific importance. But it has left unsolved many problems, and has filled gaps with speculations. Admitted epidemiological facts are often open to various interpretations.

We are evidently at a great advantage when we can study the epidemiological facts with a knowledge of the substances which actually cause infection, and this we are now enabled to do for a limited number of the infectious diseases. This new method of research, which thus far has been mainly bacteriological, has aided us not so much by simplifying the problems of etiology, which still remain complicated enough, as by affording greater accuracy to the results.

It is my aim in this address to consider some results of the modern studies of pathogenic micro-organisms in their bearing upon preventive medicine, more particularly upon the sources of infection. It is, of course, impossible within the limits of the address to attempt a complete survey of this important field. Time will permit the presentation of only some of the salient points.

Infectious diseases are those which are caused by the multiplication within the body of pathogenic micro-organisms.

It has always been recognized that some infectious diseases, such as the exanthematous fevers, are conveyed directly from the sick to the healthy. It is not disputed that in these evidently contagious diseases the infectious germ is discharged from the body in a state capable at once of giving rise to infection.

In a second group of infectious diseases, of which malaria is the type, the infected individual neither transmits the disease to another person, nor, so far as we know, is capable of infecting a locality. Here there is reason to believe that the infectious germ is not thrown off in a living state from the body, but is destroyed within the body. In this group the origin of infection under natural conditions is always outside of the body.

In a third group there is still dispute whether the disease can be transmitted directly from person to person, but all are agreed that the infected individual can infect a locality. It is especially fortunate that the bacteria which cause cholera and typhoid fever, the two most important representatives of this group of so-called miasmatic contagious diseases, have been discovered and isolated in pure culture. These are the diseases about whose origin and epidemic extension there has been the greatest controversy. They, above all other diseases, have given the impulse to public sanitation during the last half-century. The degree of success with which their extension in a community is prevented is an important gauge of the excellence of the local sanitary arrangements. A clear comprehension of the origin and spread of these diseases signifies a solution of many of the most vexed and important problems of epidemiology and of State hygiene.

[1] Address in State Medicine, delivered before the American Medical Association, in Newport, on Friday, June 28, 1889.

It is difficult to understand how those who accept the discovery that the bacteria causing typhoid fever and cholera have been found and cultivated from the stools of patients affected with these diseases can doubt that these patients are possible sources of contagion, or can entertain the view, once so widely prevalent, that the infectious germs of these diseases are discharged from the body in a condition incapable of producing immediate infection. In an address delivered on another occasion, I have endeavored to present the considerations which reconcile the comparative infrequency of direct contagion for these diseases with the belief in the elimination of the causative germs in an active state from the body, and have there pointed out several well-known factors which determine the frequency of conveyance of an infectious disease by contagion. There are reasons, some of them very obvious, why diseases in which the infectious substances are operative only when received into the digestive tract, and are discharged usually only with the fæces, are less likely to be transmitted by immediate contagion than those diseases in which the virus is thrown off from the skin on epidermal scales.

But the field of operation of direct contagion for those so-called miasmatic contagious diseases is at most a restricted one, and the chief sources of infection are outside of the body from which primarily the infectious germs may have been derived. It is to these external sources of infection, which are of such importance in public hygiene, that I wish especially to direct attention.

A full comprehension of the sources of infection is, of course, to be obtained only by a detailed study of the etiology of the individual infectious diseases; but this is, of course, impossible within the limits of an address. It may, however, be useful to present some of the facts which have a general bearing upon the subject. Let us consider, then, from the point of view of modern bacteriological studies, what rôle in harboring or transporting infectious agents may be played by those substances or media with which we necessarily come into intimate contact, such as the air, the ground, the water, and our food.

It is universally admitted that many infectious agents may be transported by the air, but the extent of danger from this source has often been exaggerated. It is a popular error to suppose that most of the minute particles of dust in the air either are or contain living organisms. The methods for determining the number and kind of bacteria and fungi in the air are now fairly satisfactory, although by no means perfect. These have shown that while the number of living bacteria and fungi in the atmosphere in and around human habitations cannot be considered small, still it is greatly inferior to that in the ground or in most waters. Unlike fungus spores, bacteria do not seem to occur to any extent in the air as single detached particles, which would then necessarily be extremely minute, but rather in clumps or attached to particles of dust of relatively large size. As a result, in a perfectly quiet atmosphere these comparatively heavy particles which contain bacteria rapidly settle to the ground or upon underlying objects, and are easily filtered out by passing the air through porous substances, such as cotton-wool or sand. Rain washes down a large number of the bacteria from the air. That the air-bacteria are derived from the ground, or objects upon it, is shown by their total absence, as a rule, from sea-air at a distance from land, this distance naturally varying with the direction and strength of the wind.

A fact of capital importance in understanding the relations of bacteria to the air, and one of great significance for preventive medicine, is the impossibility of currents of air detaching bacteria from moist surfaces. Substances containing pathogenic bacteria, as, for instance, sputum containing tubercle bacilli, or excreta holding typhoid bacilli, cannot, therefore, infect the air unless these substances first become dry and converted into a fine powder. We are able to understand why the expired breath is free from bacteria and cannot convey infection, except as little particles may be mechanically detached by acts of coughing, sneezing, or hawking. Those bacteria, the vitality of which is rapidly destroyed by complete desiccation, such as those of Asiatic cholera, evidently are not likely to be transported as infectious agents by the air, if we except such occasional occurrences as their conveyance for a short distance in spray.

The only pathogenic bacteria which hitherto have been found in the air are the pus-organisms, including the streptococcus found by Prudden in a series of cases of diphtheria and tubercle bacilli; but no far-reaching conclusions can be drawn from the failure to find other infectious organisms when we consider the imperfection of our methods and the small number of observations directed to this point. The evidence in other ways is conclusive that many infectious agents—and here the malarial germ should be prominently mentioned—can be, and often are, conveyed by the air. While we are inclined to restrict within narrower limits than has been customary the danger of infection through the air, we must recognize that this still remains an important source of infection for many diseases. All those, however, who have worked practically with the cultivation of micro-organisms have come to regard contact with infected substances as more dangerous than exposure to the air, and the same lesson may be learned from the methods which modern surgeons have found best adapted to prevent the infection of wounds with the cosmopolitan bacteria which cause suppuration.

We are not, of course, to suppose that infectious germs floating in the form of dust in the atmosphere are dangerous only from the possibility of our drawing them in with the breath. Such germs may be deposited on substances with which we readily come into contact, or they may fall on articles of food where they may find conditions suitable for their reproduction, which cannot occur when they are suspended in the air, in consequence of the lack of moisture.

From the facts which have been mentioned concerning the relations of bacteria to the air, what points of view present themselves to guide us in preventing infection through this channel? Surely something more than that this purpose is accomplished simply by abolishing foul odors.

Certain indications are so plain as to need only to be mentioned in this connection, such as the disinfection and removal, as far as possible, of all infected substances, an indication which applies equally to all channels of infection, and which is much easier to mention than it is to describe how it shall be realized. But there are two indications which apply especially to the prevention of the transportation of disease-germs by the air. One is the necessity of guarding, so far as practicable, against the desiccation, when exposed to the air, of substances which contain infectious germs not destroyed by drying, and another is free ventilation.

For no disease is the importance of the first of these indications so evident and so well established as for tuberculosis, the most devastating of all infectious diseases. Against this disease, formidable as it may seem to cope with it, the courageous crusade of preventive medicine has begun and is destined to continue.

It is now generally recognized that the principal, although not the sole, sources of tuberculous infection are the sputum of individuals affected with pulmonary tuberculosis and the milk of tuberculous cows. Cornet, who has made a laborious and most instructive experimental study of the modes and dangers of infection from tuberculous sputum, has also elaborated the practical measures which should be adopted to diminish or annihilate those dangers. These measures have been so recently and so widely published in medical journals, and so clearly presented before a Section of this Association, that I mention them only to call the attention of practitioners of medicine to their importance, and to emphasize the fact that they are based chiefly upon the principle that infectious sub-

stances of such nature as tuberculous sputum should not be allowed to become dry and converted into dust when exposed to the air.

By means of free ventilation disease-producing micro-organisms which may be present in the air of rooms are carried away and distributed so far apart that the chance of infection from this source is removed or reduced to a minimum. It is a well-established clinical observation that the distance through which the specific microbes of such diseases as small-pox or scarlatina are likely to be carried from the patient by the air, in such concentration as to cause infection, is small, usually not more than a few feet, but increase by crowding of patients and absence of free ventilation. The well-known experiences in the prophylaxis and treatment of typhus fever are a forcible illustration of the value of free ventilation.

It is, of course, not to be understood that by ventilation we accomplish the disinfection of a house or apartment. Ventilation is only an adjunct of such disinfection, which, as already mentioned, is of first importance. Time will not permit, nor is it in the plan of this address, to discuss the details of such questions as house disinfection, but I may be permitted to say that the methods for disin fecting apartments have been worked out on a satisfactory experimental basis, and should be known, at least, by all public-health officers. Whether it be pertinent to this occasion or not, I cannot forbear to add my protest to that of others against placing reliance upon any method hitherto employed of disinfecting houses or apartments by fumigation. And I would furthermore call attention to the lack in most cities of this country of public disinfecting establishments such as are in use with excellent results in most cities of Europe, and which are indispensable for the thorough and convenient disinfection of clothing, bedding, carpets, curtains, etc.

After this short digression, let us pass from the consideration of the air as a carrier of infection to another important external source of infection, namely, the ground. That the prevalence of many infectious diseases depends upon conditions pertaining to the soil cannot be questioned; but the nature and the extent of this influence have been and are the subjects of lively discussion. The epidemiological school led by Pettenkofer assigns, as is well known, to the ground the chief, and even a specific and indispensable influence, in the spread of many epidemic diseases, particularly cholera and typhoid fever. The statistics, studies, and speculations of epidemiologists relating to this subject probably surpass in number and extent those concerning any other epidemiological factor. The exclusive ground-hypothesis has become an ingenious and carefully elaborated doctrine with those who believe that such diseases as cholera and typhoid fever can never be transmitted by contagion. These authorities cling to this doctrine with a tenacity which indicates that on it depends the survival of the exclusively localistic dogma for these diseases.

To all who have not held aloof from modern bacteriological investigations it must be clear that views which have widely prevailed concerning the relations of many infectious germs to the soil require revision. The question is still a difficult and perplexing one, but on some hitherto obscure or misunderstood points these investigations have shed light, and from the same source we may expect further important contributions to a comprehension of the relations of the ground to the development of infectious diseases.

The ground, unlike the air, is the resting- or the breeding-place of a vast number of species of micro-organisms, including some which are pathogenic. Instead of a few bacteria or fungi in a litre, as with the air, we find in most specimens of earth thousands, and often hundreds of thousands, of micro-organisms in a cubic centimetre. Fraenkel found the virgin soil almost as rich in bacteria and fungi as that around human habitations. This vast richness in micro-organisms belongs, however, only to the superficial layers of the earth. Where the ground has not been greatly disturbed by human hands there is, as a rule, about three to five feet below the surface an abrupt diminution in the number of living organisms, and at the depth where the subsoil water usually lies bacteria and fungi have nearly or entirely disappeared. Fraenkel, who first observed this sudden diminution in the number of micro-organisms at a certain level beneath the surface, explains this singular fact by the formation at this level of that sticky accumulation of fine particles, consisting largely of bacteria, which forms the efficient layer in large sand-filters for water. Of course, the number of bacteria and the depth to which they penetrate will vary somewhat with the character, especially the porosity of the soil and its treatment; but the important fact that all, or nearly all, of the bacteria and fungi are retained in the ground above the level of the subsoil water will doubtless hold true for most situations.

The conditions are not favorable for the multiplication of bacteria in the depth of the ground, as is shown by the fact that in specimens of earth brought to the surface from a depth of a few feet, the bacteria which are at first present rapidly multiply. What all of the conditions are which prevent the reproduction of bacteria in the deep soil has not been ascertained, but the fact necessitates similar precautions in the bacteriological examination of the soil as in that of water.

We have but meagre information as to the kinds of bacteria present in the ground in comparison with their vast number. Many of those which have been isolated and studied in pure culture possess but little interest for us, so far as we know. To some of the micro-organisms in the soil appears to be assigned the rôle of reducing or of oxidizing highly organized substances to the simple forms required for the nutrition of plants. We are in the habit of considering so much the injurious bacteria that it is pleasant to contemplate this beneficent function so essential to the preservation of life on this globe.

Among the pathogenic bacteria which have their natural home in the soil the most widely distributed are the bacilli of malignant œdema and those of tetanus. I have found some garden-earth in Baltimore extremely rich in tetanus bacilli, so that the inoculation of animals in the laboratory with small bits of this earth rarely fails to produce tetanus. In infected localities the anthrax bacillus, and in two instances the typhoid bacillus, so far as it was possible to identify it, have been discovered in the earth. There is reason to believe that other germs infectious to human beings may have their abiding-place in the ground; certainly no one doubts that the malarial germ lives there. As the malarial germ has been shown to be an organism entirely different from the bacteria and the fungi, we cannot apply directly to its behavior in the soil, and its transportation by the air, facts which have been ascertained only for the latter species of micro-organisms, and the same precautions must be observed for other diseases with whose agents of infection we are not acquainted; as, for instance, yellow fever.

In view of the facility with which infectious germs derived from human beings or animals may gain access to the soil, it becomes a matter of great importance to determine how far such germs find in the soil conditions favorable for their preservation or their growth. We have, as is well known, a number of epidemiological observations bearing upon this subject, but with few exceptions these can be variously interpreted, and it is not my purpose to discuss them. The more exact bacteriological methods can, of course, be applied only to the comparatively small number of infectious diseases, the causative germs of which have been isolated and cultivated, and these methods hitherto have been applied to this question only imperfectly. We cannot regard the soil as a definite and unvarying substance in its chemical, physical, and biological properties. What has been found true of one kind of soil may not be so of another. Moreover, we cannot in our experiments, bring together all of the conditions in nature which may have a bearing on the behavior of spe-

cific micro-organisms in the soil. We must, therefore, be cautious in coming to positive conclusions on this point on the basis of experiments, especially those with negative result. With these cautions kept constantly in mind, the question, however, is one eminently open to experimental study.

The experiments which have thus far been made to determine the behavior of infectious micro-organisms in the ground have related especially to the bacilli of anthrax, of typhoid fever, and of cholera, and, fortunately, these are the diseases about whose relations to the ground there has been the most discussion and concerning which we are most eager to acquire definite information.

As regards anthrax bacilli, it has been determined that in ordinary garden or field earth they do not multiply, but in earth contaminated by blood, urine, or fæces their reproduction can occur. They can grow on various vegetable substrata. There is no reason to doubt, therefore, that the anthrax bacilli can find in or on the ground suitable conditions for their multiplication, although such conditions are not everywhere present. For durable infection of the soil with anthrax bacilli it is, however, more important that these bacilli should find there suitable conditions for the formation of spores than that they should be able simply to multiply. The vegetative forms of anthrax bacilli would not, as a rule, be able to survive for a great length of time the hostile influences which they are likely to encounter in the ground, such as insufficient or exhausted nutriment, absence of sufficient moisture, and the attacks of saprophytic organisms. On the other hand, against these injurious influences the anthrax spores have great resistance. In the superficial layers of the ground the anthrax bacilli may often find those conditions of moisture, of temperature, of oxygen supply, and of insufficient food which we know are most favorable for the development of their spores; indeed, Soyka has shown that the ground presents often these conditions better than our culture media. A circumstance discovered by Feltz, which, however, needs confirmation, is, if true, of not little significance. He finds that anthrax bacilli may undergo a progressive diminution in virulence in the soil. If this should be true likewise of other infectious micro-organisms, we should be able to account in some instances for the variable degree of virulence which clinical observation indicates that certain agents of infection acquire. So far as anthrax bacilli are concerned, we may conclude, therefore, that the ground occasionally offers suitable conditions for their reproduction, but what is of greater importance, it offers especially favorable conditions for their long-continued preservation in the form of spores. I must forego here the further consideration of the special circumstances inherent in the soil which control the origin and spread of epidemics of anthrax in cattle, although many interesting investigations have been directed to this subject.

Of greater interest to physicians is the behavior of typhoid and of cholera bacteria in the ground. As has already been intimated, the ground is regarded by Pettenkofer and his school as the principal breeding-place of these micro-organisms outside of the body. This view, however, is not supported by bacteriological investigations. Inasmuch as the cholera and typhoid bacilli may multiply on various vegetable substrata and substances derived from animals at temperatures often present in the ground, it is evident that here and there conditions may be present for their growth in the ground, but this growth is likely to be soon interrupted by the invasion of ordinary saprophytic organisms and other harmful influences. The typhoid bacilli are more hardy in resisting these invaders than are the cholera bacteria, which easily succumb, but even for the former, so far as our present knowledge extends, the ground can rarely serve as a favorable breeding-place.

It is not, however, necessary that these organisms should multiply in order to infect for a considerable time the ground; it is sufficient if their vitality is preserved. As to this latter point, the reports of different investigators are not altogether concordant. Such excellent observers as Koch, Kitasato, and Uffelmann found that the cholera bacteria, when added to fæces, or a mixture of fæces and urine, rapidly diminished in number, and at the end of three or four days, at the most, had wholly disappeared. In a mixture of the intestinal contents from a cholera corpse with earth and water, Koch found numerous cholera bacteria at the end of three days, but none at the end of five days. On the other hand, Gruber reports the detection of cholera bacteria in cholera dejecta fifteen days old. The weight of bacteriological evidence, therefore, is opposed to the supposition that the bacteria of Asiatic cholera preserve their vitality for any considerable time in the ground or in the excreta.

With respect to the bacilli which cause typhoid fever, it has been shown by Uffelmann that these may live in fæces, a mixture of fæces and urine, and a mixture of garden earth, fæces, and urine for at least four and five months, and doubtless longer, although they may die at the end of a shorter period. He also finds that under these apparently unfavorable conditions some multiplication of the bacilli may occur, although not to any considerable extent. Grancher and Deschamps found that typhoid bacilli may live in the soil for at least five months and a half. Unlike the cholera bacteria, therefore, the typhoid bacilli may exist for months at least in the ground and in fecal matter, holding their own against the growth of multitudes of saprophytes. This difference in the behavior of cholera and of typhoid germs is in harmony with clinical experience.

As regards other infectious bacteria than those which have been considered, I shall only mention that tubercle bacilli, although incapable of multiplication under the ordinary conditions of nature outside of the body, may preserve their vitality for a long period in the ground, on account of their resistant character, and, furthermore, that the pyogenic cocci, on account of their considerably resistant nature and their modest demands in the way of nutriment, can be preserved and sometimes probably grow in the ground. Indeed, the staphylococcus pyogenes aureus has been found in the earth by Lübbert.

The conclusion which we may draw from the observations mentioned is that, in general, the soil is not a good breeding-place for most of the infectious bacteria with which we are acquainted, but that it can retain for a long time with unimpaired vitality those which produce spores or which offer considerable resistance to injurious agencies, such as anthrax bacilli, typhoid bacilli, tubercle bacilli, and the pyogenic cocci.

In order to become infected with bacteria in or on the ground, these bacteria must in some way be introduced into the body, and we must, therefore, now attempt to determine how bacteria may be transported to us from the ground. So various and intricate are the possibilities for this transportation that it is hopeless to attempt to specify them all.

There occurs to us, first, the possibility of the conveyance of infectious micro-organisms from the soil by means of currents of air—a mode of carrying infection which has already been considered. Here I shall only repeat that the wind can remove bacteria from the ground only when the surface is dry and presents particles of dust, and that the sole, perhaps the chief, danger is not that we may inhale the infected dust.

Manifold are the ways in which we may be brought into contact with infectious bacteria in the ground, either directly or by means of vegetables to which particles of earth are attached, by the intervention of domestic animals, by the medium of flies or other insects, and in a variety of other ways, more or less apparent.

An important, doubtless for some diseases the most important, medium of transportation of bacteria from an infected soil is the water which we drink or use for domestic purposes. From what has been said, it is evidently not the subsoil water which is dangerous, for

infectious, like other bacteria, cannot generally reach this in a living state, but the danger is from the surface-water, and from that which trickles through the upper layers of the ground, as well as from that which escapes from defective drains, gutters, cesspools, privy-vaults, and wrongly constructed sewers or improper disposal of sewage. I shall have something to say presently of water as a source of infection, and shall not further elaborate here the dangers of infection of drinking-water through contaminated soil; dangers which, especially as regards typhoid fever, are widely appreciated in this country, even if often imperfectly counteracted.

A point which has been much discussed, and one of interest, is whether bacteria which are in the depth of the ground can come to the surface. Two agencies, especially, have been considered by some as capable of transporting bacteria from the depth to the surface. One is ascending currents of air in the ground, and the other is the capillarity of fluids in the minute pores of tne ground. The first of these suspected agencies must be unquestionably rejected, in view of the fact that even a few inches of sand is sufficient to filter all of the bacteria out of the air, even when it is in much more rapid motion than can occur within the ground. Moreover, that degree of dryness which is essential for the detachment of bacteria by air-currents is not likely to be present much below the surface of the ground. The experiments which have been made to determine to what extent bacteria may be carried upward by the capillarity of fluids in the ground have not yielded harmonious results, but the weight of evidence is opposed to the belief that this is a factor of any considerable importance for this purpose.

From what has been said concerning the growth of pathogenic bacteria in the soil, we shall not be inclined to attribute to the multiplication and the motility of these organisms much influence in changing their place in the ground.

The somewhat sensational rôle assigned by Pasteur to earthworms, of bringing bacteria to the surface, cannot be wholly ignored, and has received support from observations of Bollinger regarding anthrax, but it is questionable whether much importance is to be attached to this agency.

Regarding the depth to which typhoid bacilli may penetrate in the soil, the experiments of Grancher and Deschamps show that at the end of five weeks they may reach a depth of sixteen to twenty inches below the surface. As Hoffmann has demonstrated the extraordinary slowness with which fluids and fine particles penetrate the soil, it is probable that in the course of time a greater depth than this may be reached. Indeed, Macé claims to have found in the neighborhood of a well, suspected of infection, typhoid bacilli, together with ordinary intestinal bacteria, at a depth of at least six and a half feet below the surface. There are a number of instances recorded in which there is good reason to believe that turning up the soil, and cleaning out privies or dung-heaps in which typhoid stools have been thrown, have given rise to typhoid fever, even after the infectious excreta have remained there a year and more.

It cannot be said that bacteriological investigations have as yet shed much light upon a factor which plays a great rôle in epidemiology, namely, predisposition to infection from the ground, according to locality and time, and this deficiency receives constant and vehement emphasis from the localistic school of epidemiologists. We can, however, readily understand that varying conditions, such as temperature, moisture, porosity, quality of soil, may exert a controlling influence in determining the behavior of infectious germs in the soil, and the facility of their transportation to human beings or animals. As regards that much discussed question, the significance of variations in the height of the subsoil-water, in relation to the prevalence of cetain epidemic diseases, particularly cholera and typhoid fever, we now know that this cannot depend upon the presence of bacteria in the subsoil-water itself, or in the capillary layers immediately above it. It has been plausibly suggested that with the sinking of the subsoil-water fluids from infected cesspools, privy-vaults, and other localities may more readily be drawn into wells or other sources of water-supply, and that by the same cause the surface of the ground becomes dry, so that dust-particles may be lifted by the wind. Other more or less plausible explanations have also been offered, but it must be confessed that our positive information on this point is meagre. There can, however, be little doubt that this significance of the variations in subsoil-water is apparent only for certain localities, and has been considerably exaggerated and often misunderstood. It is not, however, pertinent to my theme to discuss this or other purely epidemiological observations concering the relations of the ground to the spread of epidemic diseases, interesting and important as are many of these observations.

Before leaving the subject of the ground as a source of infection, permit me to indicate briefly some conclusions which may be drawn from what has been said, as to the principles which should guide us in preventing infection, directly or indirectly, from the ground.

First in importance is to keep infectious substances as far as possible from the ground. This implies the early disinfection or destruction of such substances as typhoid and cholera excreta and tuberculous sputum.

Second, the ground should be rendered, so far as practicable, unsuitable for the continued existence of infectious germs. This, at least for some diseases, is accomplished by a proper system of drainage, which, moreover, for other reasons, possesses hygienic importance.

Third, means should be provided to prevent waste products from getting into the ground around human habitations, or from gaining access to water used for drinking or domestic purposes. In cities this can be accomplished only by a properly constructed system of sewers. The system of storing waste products in cesspools, whence they are to be occasionally removed, cannot be approved on hygienic grounds. There are conditions in which the disposal of waste products in deep wells only used for this purpose, and whence these products can filter into the deep layers of the ground, may be permissible, but this can never be considered an ideal method of getting rid of excrementitious substances, and is wholly wrong in regions where wells are used for drinking-water. But I am trespassing with these remarks upon a province which does not belong to me, but rather to practical sanitarians and engineers. I shall only add that the advantage gained by preventing organic waste from soaking into the ground is not so much that the ground is thereby rendered better adapted for the existence of infectious micro-organisms, but is due rather to the fact that this waste is likely to contain infectious germs.

Finally, in cities, good pavements, absence of unnecessary disturbance of the soil, cleanliness of the streets, and laying of dust by sprinkling are not only conducive to comfort but are sometimes hygienically important in preventing infection from the ground and dust.

In passing from the consideration of the ground to that of water, one feels that he now has to do with a possible source of infection against which, in this country and in England, he is at liberty to make any accusation he chooses without fear of contradiction. There is reason to believe that such accusation has been repeatedly made, without any proof of misdemeanor on the part of the water. It is not, therefore, with any desire to awaken further the medical or the public conscience that I wish to say a few words concerning the behavior of bacteria in water, and the dangers of infection from this source. That such dangers are very real must be apparent when we consider the universal employment of water, and its exposure to contamination from all kinds of sources.

Ordinary water, as is well known, contains bacteria in large number. Not a few species of bacteria can multiply rapidly, and to a large amount, even in distilled water. These are the so-called water-bacteria, and, like most of

the micro-organisms found in ordinary drinking-water, are perfectly harmless saprophytes. What we wish to know is, how pathogenic micro-organisms conduct themselves in water. Can they grow, or be preserved for any length of time in a living condition in water? As regards the multiplication of pathogenic bacteria in water, the results of different experimenters do not altogether agree. Whereas Bolton failed to find any growth, but rather a progressive diminution, in number of pathogenic bacteria planted in sterilized water, Wolffhügel and Riedel observed a limited reproduction of such bacteria, including those of typhoid fever and of cholera. This difference is due probably to the methods of experimentation employed. According to Kraus, these latter bacteria diminish rapidly in number in unsterilized spring or well water kept at a low temperature. These experiments indicate that water, even when contaminated with more organic impurities than are likely ever to be present in drinking-water, is not a favorable breeding-place for pathogenic bacteria. Still it is to be remembered that these laboratory experiments do not reproduce exactly all of the conditions in nature, and it may happen that in some nook or cranny, or vegetable deposit at the side of a well or stream, some pathogenic bacteria may find suitable conditions for their multiplication.

But, as has been repeatedly emphasized in this address, it is not necessary that pathogenic bacteria should actually multiply in a medium in order to render it infectious. It is sufficient if their life and virulence are not destroyed in a very short time. As to this important point Bolton found that in sterilized water typhoid bacilli may preserve their vitality for over three months, and cholera bacteria for eight to fourteen days, while Wolffhügel and Riedel preserved the latter in water for about eighty days. Under natural conditions, however, these organisms are exposed to the overgrowth of the water bacteria, so that Kraus found in unsterilized water kept at a temperature of 10.5° C. the typhoid bacilli no longer demonstrable after seven days, and the cholera bacteria after two days. The conditions in Kraus' experiments were as unfavorable as possible for the continued existence of these pathogenic bacteria, more unfavorable than those often present at the season of prevalence of cholera and typhoid fever; nevertheless I do not see that they justify the conclusions of Kraus as to the slight probability of drinking-water ever conveying infection with the germs of typhoid fever and of cholera. To render such a conclusion probable it would be necessary to demonstrate a much shorter preservation than even Kraus himself found. In judging this question it should not be overlooked that infection of drinking-water with the typhoid or the cholera germs is not so often the result of throwing typhoid or cholera stools directly into the source of water-supply as it is the consequence of leaky drains, cesspools, privy-vaults, or infected soil, so that there may be continued or repeated accessions of infected material to the water.

In view of the facts presented, there is no sufficient reason, therefore, from a bacteriological point of view, of rejecting the transmissibility of typhoid fever and cholera by the medium of the drinking-water. This conclusion seems irresistible when we call to mind that Koch once found the cholera bacteria in large numbers in the water of a tank of India, and that the typhoid bacilli had been repeatedly found in drinking-water of localities where typhoid fever existed. Nor do I see how it is possible to interpret certain epidemiological facts in any other way than by assuming that these diseases can be contracted from infected drinking-water, although I know that there are still high authorities who obstinately refuse to accept this interpretation of the facts.

In this connection it may be mentioned that pathogenic bacteria may preserve their vitality longer in ice than in unsterilized drinking-water. Thus Prudden found typhoid bacilli still alive which had been contained in ice for one hundred and three days.

When we come to consider the ways in which water may become infected with pathogenic micro-organisms we recognize at once a distinction in this respect between surface-water and subsoil-water. Whereas the subsoil-water may be regarded under ordinary circumstances and in most places as germ-free, the surface-water, such as that in rivers and streams, is exposed to all manner of infection from the ground, the air, and the direct admission of waste substances. Unfortunately, in the ordinary way of obtaining subsoil-water for drinking purposes by means of dug wells, this distinction is obliterated, for the water which enters these wells free from bacteria is converted into a surface-water often exposed, by the situation of the well, to more dangerous contamination than other surface-waters used for drinking purposes.

Now let us turn our attention, as we have done with other sources of infection, to a brief outline of certain general principles which may help us in avoiding infection from the water.

We shall, in the first place, avoid, so far as possible, the use of water suspected of infection, especially with the germs of such diseases as typhoid fever and cholera. When it is necessary to use this suspected water it should be boiled.

As regards the vital question of water-supply, it may be stated as a general principle that no hygienic guarantee can be given for the purity of surface-water which has not been subjected to a proper system of filtration, or for the purity of spring- or well-water fed from the subsoil, unless such water is protected from the possibility of infection through the upper layers of the soil or from the air. This is not saying that water which meets certain chemical and biological tests, and which is so situated that the opportunities for its contamination appear to be absent or reduced to a minimum, is not admissible for the supply of drinking-water, but the possibility of infection can be removed only by the fulfilment of the conditions just named, and upon these conditions the hygienic purist will always insist.

Unfortunately we have at present no domestic filters which are satisfactory, and most of those in common use are worse than none, as they soon furnish a filtrate richer in bacteria than the original water. The only effective method of water-filtration for the general supply is by means of large sand-filters, such as are in use with excellent results in Berlin and some other cities. These require skilled attention. I cannot on this occasion discuss the construction or working of these filters, but would refer those who are interested to the full and careful investigations of the Berlin filters by Wolffhügel, and by Plagge, and Proskauer.

What is accomplished by these artificial sand-filters is accomplished under natural conditions also by the ground, which furnishes a subsoil-water free from micro-organisms, and to obtain pure water we have only to devise means by which this subsoil-water may be secured without the chance of contamination. Just as the water which has passed through the sand-filters is collected in suitable reservoirs and is distributed in pipes which do not admit contamination from without, so by means of properly constructed artesian or driven wells we may secure the naturally filtered subsoil-water with the same freedom from the chances of infection.

It is well to bear in mind that no biological or chemical tests of water can replace those measures which have been mentioned as necessary to secure purity of water-supply. These tests are of value only when applied with proper precautions and with due consideration of the special circumstances of each case for which they are employed. There has been much profitless discussion as to whether greater significance is to be attached to the chemical or to the bacteriological examination of water. Each has its own special field of application, and in this the one cannot replace the other method. The bacteriological examination has for hygienic purposes the advantage that it may enable us to detect the specific agents of infection in the form of micro-organisms, as has already been done

for cholera bacteria and typhoid bacilli, but this is a comparatively rare result and does not at present afford a wide field of application for this method. The significance of the bacteriological test is to be based more frequently upon the fact that it concerns itself with the same class of micro-organisms to which some of the recognized, and, doubtless, many of the undiscovered, infectious agents belong, and from the behavior of which, in some respects, conclusions can be drawn as to the behavior of the pathogenic organisms. Thus the bacteriological test is the only one which enables us to judge correctly of the efficacy of those methods of filtration of surface-water and of construction of wells which insure purity of water-supply. The points of view from which we can estimate correctly, according to our present knowledge, the relative merits and fields of application of the chemical and of the bacteriological methods of water-examination have been clearly indicated by Plagge and Proskauer and by Wolffhügel. The theme is one beyond the limits or the scope of this discourse, and I have referred to it chiefly to emphasize the fact that we cannot rely upon chemical or bacteriological tests of water to the exclusion of those protective measures which have been mentioned, although I do not intend to imply that each of these tests, when properly employed, does not afford important information and is not of great value in many cases.

I have already taxed so largely your time and patience that I must pass over with brief mention the food as a source of infection. Unlike those external sources of infection which we have hitherto considered, many articles of food afford an excellent nutritive medium for the growth of a number of species of pathogenic micro-organisms, and in many instances this growth may be abundant without appreciable change in the appearance or taste of the food.

When we consider in how large a degree the certainty and the severity of infection with many kinds of pathogenic micro-organisms depend upon the number of such organisms received into the body, we can appreciate that the danger of infection from food which contains a mass of growing pathogenic bacteria may be much greater than that resulting from the reception of infected water or air, media in which infectious organisms are rarely present in other than a very dilute condition. The entrance into the body of a single infectious bacterium with the inspired air is, at least in the case of many diseases, not likely to cause infection; but let this bacterium fall upon some article of food, as, for instance, milk, where it can multiply in a short time at a favorable temperature many thousand-fold, and evidently the chances of infection become vastly increased.

Among the various agencies by which infectious organisms may gain access to the food may be mentioned the deposition of dust conveyed by the air, earth adhering to vegetables, water used in mixing with or in the preparation of food, in cleansing dishes, cloths, etc., and contact in manifold other ways with infected substances.

Fortunately a very large part of our food is sterilized in the process of cooking shortly before it is partaken, so that the danger of infection from this source is greatly diminished, and comes into consideration only for uncooked or partly cooked food, and for food which, although it may have been thoroughly sterilized by heat, is allowed to stand for some time before it is used. Milk, in consequence of its extensive use in an unsterilized state, and of the excellent nutritive conditions which it presents to many pathogenic bacteria, should be emphasized as especially liable to convey certain kinds of infection, a fact supported not less by bacteriological than by clinical observations. Hesse found that also a large number of ordinary articles of food, prepared in the kitchen in the usual way for the table, and then sterilized, afford a good medium for the growth and preservation of typhoid and cholera bacteria, frequently without appreciable change in the appearance of the food.

Upon solid articles of food bacteria may multiply in separate colonies, so that it may readily happen that only one or two of those who partake of the food eat the infected part, whereas with infected liquids, such as milk, the infection is more likely to be transmitted to a larger number of those who are exposed.

In another important particular the food differs from the other sources of infection which we have considered. Not only the growth of infectious bacteria, but also that of bacteria incapable of multiplication within the body may give rise in milk and other kinds of food to various ptomaïnes, products of fermentation, and other injurious substances, which, when ingested, are likely to cause more or less severe intoxication, or to render the alimentary tract more susceptible to the invasion and multiplication of genuinely infectious organisms.

It is plain that the liability to infection from food will vary according to locality and season. In some places and among some races the proportion of uncooked food used is much greater than in other places and among other races. In general, in summer and in autumn the quantity of fruit and food ingested in the raw state is greater than at other seasons, and during the summer and autumn there is also greater danger from the transportation of disease-germs from the ground in the form of dust, and the amount of liquids imbibed is greater. The elements of predisposition, according to place and time, upon which epidemiologists are so fond of laying stress, are not, therefore, absent from the source of infection now under consideration.

I have thus far spoken only of the secondary infection of food by pathogenic micro-organisms, but, as is well known, the substances used for food may be primarily infected. Chief in importance in the latter category are the various entozoa and other parasites which infest animals slaughtered for food. The dangers to mankind resulting from the diseases of animals form a separate theme, which would require more time and space than this address affords for their proper consideration. I shall content myself on this occasion with only a brief reference to infection from the milk and flesh of tuberculous cattle.

It has been abundantly demonstrated by numerous experiments that the milk from tuberculous cows is capable, when ingested, of causing tuberculosis. How serious is this danger may be seen from the statistics of Bollinger, who found with cows affected with extensive tuberculosis the milk infectious in eighty per cent. of the cases; in cows with moderate tuberculosis the milk infectious in sixty-six per cent. of the cases; and in cows with slight tuberculosis the milk infectious in thirty-three per cent. of the cases. Dilution of the infected milk with other milk, or with water, diminished, or, in sufficient degree, it removed the danger of infection. Bollinger estimates that at least five per cent. of the cows are tuberculous. From statistics furnished me by Mr. A. W. Clement, V.S., it appears that the number of tuberculous cows in Baltimore which are slaughtered is not less than three to four per cent. Among some breeds of cattle tuberculosis is known to be much more prevalent than this.

There is no evidence that the meat of tuberculous cattle contains tubercle bacilli in sufficient number to convey infection, unless it be very exceptionally. Nevertheless one will not willingly consume meat from an animal known to be tuberculous. This instinctive repugnance, as well as the possibility of post-mortem infection of the meat in dressing the animal, seem to be good ground for discarding such meat. The question, however, as to the rejection of meat of tuberculous animals has important economic bearings and has not been entirely settled. As to the rejection of the milk from such animals, however, there can be no difference of opinion, although this is a point not easily controlled.

The practical measures to adopt in order to avoid infection from the food are, for the most part, sufficiently obvious. Still, it is not to be expected that every possibility of infection from this source will be avoided. It is

difficult to discuss the matters considered in this address without seeming to pose as an alarmist. But it is the superficial and half knowledge of these subjects which is most likely to exaggerate the dangers. While one will not under ordinary circumstances refrain from eating raw fruit or food which has not been thoroughly sterilized, or from using unboiled or natural waters in the fear that he may swallow typhoid or cholera bacteria, still, in a locality infected with cholera or typhoid fever, he will, if wise, not allow himself the same freedom in these respects. Cow's milk, unless its source can be carefully controlled, should, when used as an habitual article of diet, as with infants, be boiled, or the mixed milk of a number of cows should be selected; but this latter precaution offers less protection than the former.

In most places in this country we are sadly lacking in good sanitary inspection of the food, especially of the animal food, offered for sale. One cannot visit the slaughter-house in Berlin or in Munich, and doubtless similar ones are to be found elsewhere, and watch the intelligent and skilled inspection of the slaughtered animals without being impressed with our deficiency in this respect. In large cities an essential condition for the efficient sanitary inspection of animal food is that there should be only a few places, and preferably only one place, where animals are permitted to be slaughtered. Skilled veterinarians should be selected for much of the work of inspection.

It may reasonably be asked that the National government, which has already spent so much money for the extermination of such diseases as pleuro-pneumonia of cattle and hog cholera, which are not known to endanger the health of mankind, should turn its energies also to means for eradicating tuberculosis from cattle, which is a scourge not only to the economic interests of farmers and dairymen, but also to the health of human beings.

Without any pretension to having done more in this address than to sketch here and there a few principles derived from bacteriological researches concerning only some of the most widely distributed external sources of infection, I trust that enough has been said to show the folly of any exclusive dogma as to modes of infection. The ways of infection even in one and the same disease are manifold and various, and can never be resolved into exclusive hypotheses, such as the drinking-water hypothesis, the ground hypothesis, etc.

It follows, therefore, that it is not by sanitary improvements in one direction only that we can control the spread of preventable epidemic diseases. In one situation improvements in the supply of drinking-water check the prevalence of typhoid fever, in another place similar measures show no such influence; or again, in one city the introduction of a good system of sewerage diminishes epidemic diseases, and in another no similar result follows. We should, therefore, aim to secure, as far as possible, good sanitary arrangements in all directions and in all respects.

It has also been rendered evident in what has been said, that infectious agents differ markedly from each other in their behavior, so that while public sanitation aims at those measures which are found to be most widely beneficial, it should not forget that each infectious disease is as much a separate problem in its prophylaxis as in its symptomatology, etiology, and treatment. It will not aim to combat cholera with the means found best adapted to scarlet fever, but it will adapt preventive measures as directly to the specific end in view as possible. In presenting to you the results of researches chiefly bacteriological concerning the scientific basis of preventive medicine, I hope to escape the accusation of one-sidedness and narrowness by the statement that I do not for a moment intend to imply that the bacteriological method is our only source of accurate knowledge on the subjects which have been considered. My aim is accomplished if I have succeeded in making clear that this method has established facts which aid in a clearer conception of the causes of some important infectious diseases, in a better understanding of the sources and dangers of infection, and in a more efficient selection and application of sanitary measures.

If this science of only a few years' growth has furnished already acquisitions to knowledge so important, so far reaching, may we not look forward with assurance to the solution of many dark problems in the domain of infectious diseases—problems the solution of which may yield to preventive medicine a future of usefulness and success which we cannot now foresee?

## A CLINICAL STUDY OF SOME ANTISEPTICS IN THE TREATMENT OF OTORRHŒA.[1]

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In considering the treatment of inflammations of the middle ear by means of antiseptic agents, it is desirable to call to mind the distinction between the prophylactic and the curative uses of antiseptic applications. We employ prophylactic antisepsis in order to prevent the entrance of micro-organisms into wounds, while by means of curative antisepsis we endeavor to render aseptic wounded or diseased areas in which micro-organisms have already secured lodgement.

The anatomical structure of the ear renders comparatively narrow the field of application of antiseptics for prophylactic purposes. In operations and wounds involving the tragus, helix, and the periosteum of the mastoid process, antisepsis can be employed with prophylactic effect. Indeed, in operations in the external auditory canal we may hope for the same effect, although here, for manifest reasons, it is more difficult to secure and retain a perfectly aseptic condition. If there be perforation of the drum membrane, the possibility of keeping the organ completely free of germs is practically out of the question, for the connection between the tympanic cavity and the throat—namely, through the Eustachian tubes—is always a way open for the bacteria which pass into the mouth with every inhalation and with every mouthful of food.

From the anatomical structure of the ear, then, comparatively little is to be expected from the employment of antisepsis as a prophylactic. As a curative agent it does admirable work.

There are two ways by which an antiseptic fluid may reach the middle ear. First, by way of the external auditory canal through a perforation of the drum-membrane; and second, through the Eustachian tube. Through this latter channel the fluid can reach the middle ear, but owing to the small opening and the difficulty of its access the operation becomes tedious and frequently impracticable. And furthermore, there is necessarily a good deal of the liquid swallowed by the patient. Now, some of our most valuable antiseptics, when taken internally, even in small doses, produce toxic symptoms. The external ear, then, is the safest and simplest road to the middle ear.

It is not surprising, in cases of obstinate suppurative inflammations of the middle ear, that these affections do not yield promptly to treatment, for the different parts of this division of the ear are singularly difficult of access. The middle ear is simply a series of channels, spaces which are divided and subdivided into an infinite number of smaller spaces. The drum-cavity, the centre, with its irregular and angular walls, is the point from which ramify the divisions of the middle ear. Here are numerous pockets where a discharge can rest and engender organisms. On the posterior wall there is the opening into the antrum mastoideum, or horizontal portion of the mastoid process, another point where secretions can accumulate. From thence we pass on into the mastoid process itself, where are located the mastoid cells. Here we have an array of pockets, chambers, recesses in which micro-organisms

[1] Read before the Clinical Society of Baltimore, February 1, 1889.

can secure lodgement. It is thus evident how difficult, nay, almost impossible, it is to obtain an antiseptic condition of the middle ear.

After these preliminary considerations concerning the general uses of antiseptics, and the difficulties inherent in the anatomical structure of the ear regarding their application, I will now mention the antiseptics which I have employed during the past fifteen months in treating suppurative processes of the ear.

Carbolic acid gave most indifferent results. A disadvantage peculiar to carbolic acid is its tendency, says Kretschmann,[1] in a one per cent. solution, to produce eczema and otitis externa, accompanied with great pain. I cannot say that my experience entirely confirms this statement, but what I have seen of its action in otorrhœa has convinced me that it is, comparatively speaking, an inferior agent. Koch's investigations show that the spores of the anthrax bacillus, when exposed to a one per cent. solution of carbolic acid, are not destroyed. Only after exposure for twenty-four hours to a five per cent. solution is their activity destroyed. The pus micro-organisms, however, are much less resistant than the spores of anthrax bacilli, so that we cannot reject the use of carbolic acid in the treatment of most cases of suppurative otorrhœa simply on the ground of its inferior antiseptic powers; but its irritating properties, as cited by Kretschmann, form a positive objection to its employment. Moreover, it has not yielded in my hands so satisfactory curative results as some other agents.

As regards iodoform, though I have used it in several cases, I must confess I have not given it an extended trial. Very few patients in private practice will tolerate its presence, particularly in the ear, where, from the exposed position of the organ, it is more difficult to suppress the odor. This objection I have found a not infrequent one, even among the better class of dispensary patients. In those cases where I used it the patients were undoubtedly benefited, for the discharge was clearly lessened by daily applications of the powder. The question as to the antiseptic value of iodoform is such a vexed one, and laboratory experiments and clinical experience differ here so widely, that I will not attempt a discussion of the subject from this point of view. It is claimed that iodoform owes most, if not all, of its antiseptic value to its property of destroying ptomaïnes. For an interesting survey of the present status of the iodoform question, I would refer to a recent article in the *Annals of Surgery*[2] by William W. Van Arsdale, M.D.

In 1880 Bezold advised the use of finely pulverized boracic acid for acute and chronic suppurating diseases of the drum-cavity with perforation. This agent is recommended mainly for its value as an antiseptic. It is supposed to act not only by disinfecting the secretion, but also by preserving an aseptic condition of the mucous membrane. Again, it is urged that its freedom from irritating qualities permits its use with perfect impunity by laity and physician alike. And, finally, the persevering use of boracic acid is claimed, with few exceptions, to cure every discharge from the ear. Such promises naturally provoked an unqualified use of this agent, but it was not long before reports appeared which showed that boracic acid fell far short of doing in every case what was expected of it; that there were limitations to its use, certain kinds of cases where it was indicated, others where it did absolutely no good, others again where it was positively dangerous.

Professor Schwartze, of Halle, in his treatise, "Die Chirurgischen Krankheiten des Ohres," says that in certain cases of chronic otorrhœa, boracic acid, when introduced in small quantities into the ear, will effect a cure. Such cases are those in which the perforation is large and situated in the lower quadrant of the drum-membrane, and in which the secretion is not very abundant. He advises against the use of boracic acid when the secretion is very abundant and thick, for here a sticky mass will be formed which adheres to the walls of the cavity and stops up and prevents the egress of the discharge, and which sometimes results in retention of pus, inflammation of the mucous membrane covering the bones, and, finally, of the bones themselves. Schwartze thinks that the use of boracic acid is contra-indicated in acute otorrhœa of the drum-cavity. Here we have a thick muco-purulent discharge, and generally a very small perforation, and just such a condition may arise as described above, namely, retention and all its unfortunate consequences.

Dr. Stacke,[1] in an article on the subject, mentions a case of chronic otorrhœa with medium-sized perforation, situated on the upper portion of the drum-membrane. Inasmuch as the mucous membrane seemed pale and smooth and the discharge was slight, only a small quantity of powder was blown into the ear. After four weeks, during which period he had not seen the patient, the latter came back for an examination. There had been no discharge for some time. The drum-membrane was coated with a fine adherent scale, and, on using the Politzer bag, a moist râle was heard. A closer examination revealed a drum-cavity full of pus. In this case there existed a condition unfavorable for the free exit of the discharge, the slight secretion in the beginning had formed over the perforation a thin scale which, with time, became stronger and more resistant, and when the secretion increased in quantity, the scale which covered the perforation was too strong to give way, and hence retention followed. Timely discovery prevented dangerous consequences. In two cases he observed brain-symptoms after three weeks' use of the powder. Stacke mentions four other cases of chronic otorrhœa, which he had treated for a long time with boracic acid. In all four cases the discharge was brought to a standstill, but suppuration continued, and before he obtained complete recovery he was obliged in two cases to trephine the mastoid, and in the other two, excise the malleus.

Dr. Grüning,[2] of New York, reports three cases of death from retention of pus after a long use of boracic acid in the powder form. In the course of the disease nothing unusual was observed in either case, till after they had been for some time under the boracic-acid treatment. Two cases died of meningitis, and the other one of pyæmia. In one of the cases the mastoid process was opened the day before death, and it was found full of pus.

I have not met with such unfortunate results in my experience with boracic acid, although entire paralysis of one side of the face occurred in a child that had been seen by me not long ago, and which condition might readily be attributed to having packed the external ear with the powder. The case was that of a child aged eight years, that had been troubled with a persistent otorrhœa for three years. An examination showed that the entire drum-membrane was gone, and that the tympanic cavity was full of granulations. I touched the latter with chromic acid and prescribed an acid sublimate solution, to be poured into the ear three times daily, and to remain in the ear five or ten minutes at a time. I heard nothing more of the patient for a month, when I received a letter from the family physician stating that the child was paralyzed on the left side of the face. For the first three or four days after using the sublimate solution the discharge, from having been copious, had lessened to a few drops a day, and the fetor had entirely disappeared. The doctor said that, not being able to stop the discharge completely, he thought he would pack the ear with powdered boracic acid. This was done, and ten days later he noticed the facial palsy. Facial paralysis as a result of otitis media is

[1] Archiv für Ohrenheilkunde, Bd. xxvi., S. 109.
[2] Vol. ix., No. 3, pp. 201-216.

[1] Die Behandlung der Otorrhoe mit Borsäurepulver, Deutsche Med. Wochenschr., No. 49, S. 1062, 1887.
[2] Three Fatal Cases of Middle-ear Suppuration after Treatment with Boric-acid Powder. Transactions of the American Otological Society Vol. iv., Part i., 1887.

not a very rare occurrence, and it is quite possible that, even had the boracic acid not been used, the paralysis would have shown itself sooner or later. In this case, however, the disease for three years had been marked by no unusual symptoms, and for two weeks was so improved by a certain line of treatment that the otorrhœa had nearly ceased, and the accompanying odor had entirely disappeared. A new treatment was then adopted, and a few days later the case presented a more unfavorable outlook than at any time during the three years. It is quite fair to conclude that the powder offered a mechanical obstruction to the small discharge that was still going on, and that this latter, accumulating in the bottom of the cavity, produced pressure upon the chorda tympani and hence paralysis, or, possibly, an actual extension of the inflammation to the nerve itself ensued. This is the only instance in my experience when the use of boric acid was attended with unfortunate consequences. Both in the powder form and in solution this agent has done me good service, and many persistent otorrhœas have been permanently cured.

I have found no agent, however, which has yielded such good results as the bichloride of mercury. I use it in solutions varying in strength from 1 to 3,000 to 1 to 8,000 and 10,000.

Koch's investigations show that the spores of the anthrax bacillus are rendered perfectly innocuous after a few minutes' immersion in a 1 to 20,000 sublimate solution. In experiments made with a sublimate solution of 1 to 1,000 the following organisms were destroyed in eight seconds: Anthrax bacilli (free from spores); the bacilli of diphtheria, glanders, and typhoid fever; streptococci from puerperal fever and from pus, the staphylococcus aureus and albus, and the organism of erysipelas. A solution of such strength is, of course, much too strong for the ear. The strongest solution that I have ever used is 1 to 3,000, and even this has caused pain when poured into the ear. The strength of the solution that I generally use is 1 to 5,000, and with this I have never had any complaints from the patients. It is well known that when a sublimate solution comes in contact with a substance containing albumen that a precipitate is thrown down which is usually regarded as the albuminate of mercury. This reaction is supposed to take place when we pour such a solution into an ear from which there is a purulent discharge, and here I would allude to the contradictory experiments of Drs. Laplace[1] and Behring.[2] The first of these investigators proved that when the albuminate of mercury is precipitated that the sublimate solution has lost much of its germicidal property. The same investigator has shown that this precipitate may be prevented by making the sublimate solution slightly acid. This solution, Dr. Laplace says, has lost none of its antiseptic value by the addition of the acid; on the contrary, it is a more powerful germicide than ever. Either tartaric or muriatic acid was used. According to Dr. Behring, this albuminate of mercury does not exist, or, rather, does not in the slightest degree resemble the insoluble albuminous coagulum produced by acids or heat. The so-called albuminate of mercury redissolves easily in acids, in iodide of potash, cyanide of mercury; in short, in all bodies which have the property of redissolving precipitates of mercury obtained in an aqueous solution. Furthermore, one can obtain from the serum of blood containing sublimate, dissolved by means of tartaric acid, the same reactions as those which an aqueous solution of sublimate will give. Again, all the reagents capable of dissolving the chloride of silver, as ammonia and cyanide of potash, are equally capable of preventing chloride of silver from producing a precipitate in blood-serum, and are capable of dissolving such a precipitate when it does occur, all of which goes to prove that the salts which are present in the blood play an important part in the existence of metallic precipitates, and that the albumen found in the precipitate is, so to speak, carried along mechanically. Dr. Behring further finds that the acid sublimate solution is a quarter less active as a germicide than the non-acidulated sublimate solution.

So much, then, for the question as viewed from the light of laboratory experiments. Clinical experience is not yet so divided, and I am every day, as surgeon in charge of a large ear clinic, together with frequent confirmations from my colleagues—being convinced of the positive good effected by the acid sublimate solution.

The following is the prescription used:

℞. Hydrarg. bichlor..... gr. ss.
Acid. tartar..... grs. xx.
Aquæ.....q. s. ad ℥ v.

The patient is first required to syringe the ear out with warm water, and then to pour the sublimate solution into the ear till the latter is quite full. The fluid is allowed to run out after remaining in the ear ten or fifteen minutes. A piece of cotton is then moistened with the solution, and with it the external opening of the ear is closed. This treatment is repeated two or three times a day. As far as possible, then, the tissues of the drum-cavity, its remote connections, and the whole external auditory canal are kept in a condition unfavorable for the growth of organisms. A marked diminution in the discharge is seen almost immediately, and not infrequently a patient will remark upon the absence of odor after the first day's applications. In granulations and in polypi sublimate solutions have only the effect of removing the fetor; the discharge is not lessened to any extent. Such conditions demand special treatment. But in the ordinary otorrhœa resulting from otitis media, which affection forms so large a percentage of the dispensary patients, the acid sublimate solution has given me most satisfying results. About seventy-five cases have been collected by me during the past year; but, unfortunately, I have not been able to follow up more than forty to the point of complete recovery.

As regards relapses, since I began treating the majority of suppurating diseases of the ear with an acid sublimate solution, I think I can safely say that the good done here has been no less permanent than when the majority of cases were treated with boracic acid or other agents. I may say that the greater part of the time a similar case was always kept on the boric-acid treatment, to judge of its relative merits, and in by far the majority of cases the improvement was quicker when the sublimate solution was used. Certainly the fetor disappeared more promptly when the latter agent was employed. The following cases may be regarded as fairly typical of the efficacy of this mode of treatment:

Case I.—C. K——, thirteen years of age. Chronic otitis media. Medium-sized perforation. Otorrhœa for two years. Treated with insufflations of boric acid for two weeks with no visible improvement. Commenced to use the sublimate solution, and the discharge had stopped on the eighth day. The perforation had become smaller, and subsequently healed over entirely.

Case II.—F. O——, thirty-three years of age. Chronic otitis media. Otorrhœa twelve years. Drum-membrane nearly gone. No sign of discharge on the tenth day. The patient was seen for three or four days after this, and as the otorrhœa had not returned he was discharged, with the injunction to come back if he had any further trouble. It is now at least six months since he was last seen.

Case III.—P. K——, eight years of age. Otitis media. Otorrhœa six weeks. Small perforation in upper and anterior quadrant of drum-membrane. The ear stopped discharging after using the sublimate solution for four days. As usual, the patient was kept under observation for several days after the discharge had ceased, at the end of which time he was allowed to go, and he has not been seen since.

[1] Säure Sublimatlösung als desinficirendes Mittel und ihre Verwendung in Verbandstoffen, Deutsche Med. Wochenschr., No. 40, S. 866, 1887.

[2] Ueber Quecksilbersublimat in eiweisshaltigen Flüssigkeiten, Centralblatt für Bakteriologie u. Parasitenkunde, 2. Jahrgang, Bd. iii., Hft. 1, 2.

CASE IV.—J. B——, five years of age. Acute suppuration of the middle ear. Small perforation and otorrhœa for one week. There was no sign of the discharge on the tenth day.

CASE V.—Mrs. R——, fifty years of age. Chronic inflammation of the middle ear. Large perforation and otorrhœa for four months. The discharge stopped on the seventh day. There was no closing up of the perforation though the ear remained free of any discharge, and the patient was allowed to go after having been about two weeks under observation.

CASE VI.—A. W——, two months old. Otorrhœa first noticed about ten days after birth, and, furthermore, in both ears. In eight days the discharge from both ears had ceased.

Unfailing success was claimed by the author of the boric-acid treatment, but the experience of many aural surgeons has not borne out the truth of this promise. Certainly no such claim can be made for the sublimate solution. To succeed always is the lot of no drug. Some cases get well with no other treatment than syringing out the ear with warm water several times daily. This, however, is the exception. It will be observed that four days was the quickest period of time in which the discharge was stopped by the sublimate solution. I once stopped the discharge from an ear with two insufflations of boric acid. But this, again, is a very rare exception, and proves nothing as to the relative superiority of boric acid to other agents. It is impossible to explain how an agent which will put a stop to an otorrhœa in two days, and that, too, with a single daily application, will, in a dozen other cases which present to examination almost the same objective features, demand many days to do any good, and frequently fail to cure completely.

Bacteriological researches in cases of suppurative inflammation of the middle ear have been recently made by Zaufal,[1] Moos,[2] Rohrer,[3] and Netter.[4] According to these investigators, four distinct species of pathogenic micro-organisms are concerned in the production of suppurative inflammations of the middle ear, sometimes one and sometimes more than one variety being found in the same case. These organisms are the micrococcus Pasteuri, discovered by Sternberg in his own saliva, and recognized by him as the cause of sputum septicæmia in rabbits—and subsequently by Fraenkel, Weichselbaum, and others as the cause of croupous pneumonia in human beings (diplococcus pneumoniæ); the bacillus pneumoniæ of Friedländer, the staphylococcus pyogenes, and streptococcus pyogenes. In fetid otorrhœa bacilli and cocci are always found; in non-fetid cases only cocci (Zaufal). The streptococcus are found most often associated with serious complications, as, for instance, subcutaneous abscesses, mastoiditis, meningitis, purulent infection. That we possess in bichloride of mercury the most perfect of germicides has been amply proven, and upon theoretical grounds, then, did Kretschmann, a little over a year ago, suggest that a sublimate solution be employed in suppuration of the middle ear. From experience I can testify to the value of the suggestion, and from an antiseptic point of view the question hardly admits of argument.

To sum up: 1. Carbolic acid, to get its full antiseptic value, must be employed in a solution too strong to be used in the ear without doing positive harm. 2. Iodoform will not be tolerated by the majority of patients, and did not give me as good results as boric acid. 3. Inasmuch as the recent experience of aural surgeons has shown that the use of boric acid in the powder form is associated with danger,[5] I comparatively seldom use the agent in this form. In the saturated solution boric acid is a valuable agent. 4. If the ear be thoroughly cleansed with warm water, and the acid sublimate solution be allowed to remain in for ten minutes or more, and the ear then closed with a pledget of cotton which has been moistened with the solution, the clinical observations of the past few months have led me to conclude that this solution has a somewhat larger field of usefulness, and will show a somewhat larger percentage of cures than the other three agents.

[1] Prag. Med. Wochenschrift, 1887, No. 27; 1888, No. 8.
[2] Zur bacteriellen Diagnostik u. Prognostik der Mittelohreiterungen. Deutsche Med. Wochenschr., November 1, 1888.
[3] Ueber die Pathogenität der Bakterien bei eitrigen Processen des Ohres. Ibid.
[4] Annales des Maladies de l'Oreille. October, 1888.
[5] Antisepsis in der Ohrenheilkunde, Archiv f. Ohrenheilkunde, Bd. xxvi., S. 113.

## THE TREATMENT OF PULMONARY TUBERCULOSIS.

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BEFORE expressing my views in relation to the treatment of pulmonary tuberculosis by the use of calomel, I will explain how I arrive at the application of mercurials in tubercular affections of the lungs.

From time immemorial tubercular meningitis in children has been treated with calomel as well as with the application of mercurial ointment, and favorable results have been obtained. I, myself, have succeeded in curing a child when already in an advanced stage of this malady, and also many other cases, provided no serious effusion had taken place in the arachnoids, or, at least, when such effusion was not copious.

It will be remembered that Dr. O'Beirne recommended the use of mercurial preparations for combating scrofulous arthritis of the hip and knee, and that this treatment, employed by many physicians, was sufficient to arrest the progress of so terrible a complaint, provided it had not reached the ulcerative period.

Mr. Graves, the intelligent Dublin clinician, well acquainted with Dr. O'Beirne's views upon the subject, was inspired with the idea of treating scrofulous bronchitis and pneumonia by the use of mercurials. Mr. Graves advises their employment whenever the illness commences with a scrofulous inflammation of the lungs. "Only in such cases are mercurials to be tried, and even then they are of no service, except when the pulmonary affection has suddenly commenced under the influence of an efficient and well-known cause—such as cooling off, or an hæmoptysis."—"Lessons on Medical Clinics," by Dr. R. J. Graves, translated into French by Dr. Jaccoud. Paris, 1863. Lesson 45, p. 172.

I cannot attempt to follow the author in his demonstration that mercurials have to be employed in scrofulous bronchitis and pneumonia, in persons predisposed to phthisis, but prior to the development of the general phenomena; in a word, when in his judgment there is as yet no phthisis. Notwithstanding, I cannot abstain from quoting the following: "When, in a scrofulous person, a sudden cold has determined the inflammation of the bronchial mucous membrane, or of the pulmonary tissue, in case the cold is recent and there is no reason to suspect the existence of tubercles, mercury succeeds admirably in arresting the progress of this malady, which, neglected or improperly treated, would most probably end in phthisis." Ibid., page 176.

Should any doubt be entertained relative to the author's views, Mr. Jaccoud, the translator, removes it in a note on the same page of the quoted work, commenting on this phrase of M. Graves:

"In spite of this restriction this method is, in my opinion, a most valuable acquisition for certain complaints which have a tendency to degenerate into phthisis." Mr. Jaccoud's annotation runs thus: "I expressly call attention to this last phrase, in order to prevent attributing to the author any idea of treating phthisis by mercurials, a fact which might happen by resorting to any of those erroneous interpretations which are so common. Mr. Graves reserves this medicament for inflammatory affec-

tions which develop in scrofulous individuals, and have a tendency to degenerate into phthisis."

Resting upon this opinion, and upon the fact, often observed by me, that *tabes mesenterica* can be cured by the use of English blue mass, I resolved to apply mercurial preparations in the case of persons undoubtedly affected with tubercles.

The first individual coming under my observation was a young lady eighteen years of age, who, up to that time, had enjoyed good health, and in whom an intense bronchitis appeared, which was soon accompanied with fever, sweats, marked loss of flesh and appetite, and other disturbances of the digestive apparatus. When convinced that the disease would not yield to the remedies prescribed in these cases, an examination of the patient led me to discover that there was an induration in the apex of the right lung; and then I subjected her to the use of calomel internally administered, by frictions of mercurial ointment, and to applications of light blistering plasters in the subclavian region and adjacent parts. When gingivitis showed itself I discontinued the application of mercurials. Due either to the use of these preparations, or because the inflammation of the gums prevented the patient from eating, her strength was diminished, and in her countenance might be noted the deterioration which her organism had undergone; but her condition in general soon improved, fever and sweats ceased, the appetite returned, the cough rapidly diminished, her strength came back, and the indications of pulmonary induration gradually and totally disappeared. This, which was the first application of mercurials made by me, occurred in the beginning of, 1871. The patient is still alive and enjoys perfect health. I communicated the result to the members of the *Sociedad Familiar de Medicina*, and in subsequent cases treated by me, I took especial care that the same gentlemen, or other distinguished physicians of this city, should verify the existence of pulmonary tuberculous infiltration; and when we agreed in the diagnosis, I proceeded to the application of the method.[1]

The results obtained were, in every case, the more or less rapid cure of the patients, with the exception of two cases—one treated by me and the other by Dr. Brassetti—both of which cases had reached the period of pulmonary ulceration, and in whom wide cavities were encountered.

It would be impossible, in a short communication, to state the numerous observations collected by me from patients in similar conditions to the one I have used as a type, but as I wish to be exact relative to the circumstances in which the employment of mercurials gives a certain result, I will fix the conditions under which I have used them:

*A.*—Whenever there are indications of pulmonary induration of a tuberculous nature. (Until lately, for my diagnosis, I have resorted to the clinical characteristics accepted by all physicians; but since the *bacillus* in tuberculosis has been generally known, I have added to these means the demonstration of the presence of this microbe in the sputa.)

*B.*—The tuberculous infiltration of the lung, either accompanied or not with intense bronchitis, requires the use of mercurials and blisters.

*C.*—Tuberculous bronchitis requires the same treatment.

*D.*—I employ this method in pulmonary tuberculosis, either recent or of long standing, providing it has not reached the period of ulceration.

*E.*—I also use it when there is either intermittent or remittent fever; whatever may be the state of the digestive apparatus; only if there is diarrhœa I advise a milk diet, and afterward the attack intestinal disturbance with suitable remedies.

I know of but two contra-indications: one is when ulceration of the lungs has led to the formation of large cavities, and the other the complete exhaustion of the patient, since in these cases the sick, instead of being benefited, succumb more rapidly than without such treatment, as happened in the two cases to which I have previously referred.

I should state that the treatment by mercurials and blisters modifies in a rapid and favorable manner the local and general condition of the patient, to such an extent that the patients in many cases have their health entirely restored. This happens in persons who have not been ill long, or when the sickness is of lesser intensity; but in other cases the method indicated opens the way to healing; and, in order to complete the cure, it is necessary to have recourse to other means, which vary according to circumstances. I will enumerate those which I more frequently employ.

To begin with hygiene: A residence in the country; if it be possible, the dwelling facing south or east; breathing a pure atmosphere, exercise in the open air; hydrotherapy when the fever has disappeared; nutritious and wholesome food.

I intentionally omit mentioning the advantage of living in climates of elevated countries, since I wish to make this the theme of another paper, which I will have the honor to forward soon.

After using mercurials I constantly employ iodide of sodium, according to this formula:

℞. Aquæ destill.....grams 50
Iodid. sodii..... " 10

Sig.—Used in drops, to commence with ten, increasing by ten each day, and having reached two hundred, to be recommenced; always administered either in pure or in sugared water. The use of this substance is to be continued for many months.

If this treatment by mercurials has failed to satisfy me, I add to the use of the iodide that of English blue mass.

The frequent use of blisters is suitable, but in order not to fatigue the patient, I recommend the weekly application of a light one (that is to say, not producing suppuration) in different parts of the thorax, giving the preference to the affected side. There are persons who need many of them, but commonly ten or twelve are sufficient in incipient cases. As in some patients the repetition of the blisters causes boils around these blisters, they constantly refuse to continue with the treatment; in such cases I substitute blisters by cautery-points at twenty or thirty different places in a limited space of the thorax, using the acute cone of the thermo-cautery of Paquelin; and in this case I repeat more frequently the applications.

As long as there exists any point of the lung indurated, I continue the blister, even should it have to be prolonged for several months.

I always employ blisters for simple bronchitis in tuberculous persons.

Should the pulmonary lesion, although ameliorated, remain stationary, I occasionally return to the use of calomel, administered internally, and mercurial ointment, externally.

Should the patient not recover his previous robust health, but remain delicate, I employ arsenic, in the form of the arseniate of strychnine:

℞. Extracti cinchonæ..... gr. 4
Arseniatis strychnici..... gr. 0.03

in thirty pills. Sig.—To commence with one daily at dinner, increasing one every four days. Having reached five pills a day, recommence, using one.

This treatment I also continue for a long period.

I have, unconsciously, come to treat slow developing phthisis, and in a chronic form; but as it often happens that the mercurial treatment, when it does not at once cure, favorably modifies the malady, it becomes imperative to perfect the cure by resorting to less energetic means.

Many patients, and even physicians, become frightened at the deterioration undergone by the health of the sick, while under mercurial treatment; but fever disappears

[1] In 1881 I delivered a lecture on this subject before the majority of the physicians of the City of Guanajuato, my native town.

soon after, sweats cease, cough diminishes in frequency and intensity, appetite and physical strength return, and the patient begins to recover his weight, and becomes convinced of the benefit received.

I do not wish to enter into the theoretical considerations which induced me to employ mercury in the healing of pulmonary tubercles, but I should state that, now that the *bacillus tuberculosus* has become known, every physician has endeavored to find parasiticides which, operating directly upon the microbe, may prevent its development and propagation; creosote, iodine, iodoform, phosphate of copper, tannin, and menthol have been alternately employed, with this object. Antiseptic inhalations and pulverizations with iodine vapors, iodide of ethyl, benzoate of sodium, camphor, turpentine, resin, iodoform; with a solution of biniodide of mercury, with solutions of picric acid, of boric acid, etc. The inhalations of fluorhydric acid have been more carefully studied, and tried on a greater scale. Those of sulphurous acid, those by the rectum with carbonic acid mixed with sulphuretted hydrogen. Hypodermatic injections of different substances have also been used, and even intra-parenchymatous ones, which results do not appear to have been advantageous.

As to the use of mercurials, I do not find any other references than those of which I am about to speak. In a very recent work ("Practical Treatise on Antisepsia," by Le Gendre, Barette and Lepage, Paris, 1888), Mr. Gosselin reports some experiments undertaken in the endeavor to render sterile the organism, either before or after the tubercular inoculation. In the first case, organic impregnation by bichloride and biniodide of mercury did not prevent the development of the bacillus; it rather appeared to hasten the subject's death, debilitating his organism. The administration of the sublimate subsequent to the inoculation has produced the same results. These experiments were made in animals. Hiller made subcutaneous injections of sublimate, which did not succeed in tuberculous patients.

At a meeting of the Hospitals Medical Society (January 8, 1886), Gougenheim made known the results of thirty-three cases, in which he used antiseptic injections in tubercular cavities of the lungs, with solutions of sublimate in the proportion of one to five hundred, to one thousand, or to two thousand, according to the severity of the lesions. No ill results followed, even the cough diminished; when the injection is gradually administered, the first and second intercostal spaces should be selected. In twenty-one cases a very marked improvement was observed in regard to local aspects, but the patient's general condition did not appear to have proportionately improved.

The sole applications made, previous to the discovery of the bacillus, for the cure of phthisis with mercurials, are those which refer to the employment of bichloride of mercury, the iodide of potassium, and the sesquicarbonate of sodium. I intend to follow these suggestions and communicate any results which I may obtain.

In the *Therapeutische Monatshefte*, Prof. Dochmann wrote under date of September 15th, that he had commenced the use of mercury in phthisis, taking into consideration the microbic nature of the malady, and asserting that no one previous to himself had resorted to this treatment.

The contents of this communication prove that before the year 1871, not only had it been tried, but that the mercurial treatment had also been successfully applied in Mexico.

City of Mexico, January 10, 1889.

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The One Who Trembled.—Madame de Sévigné in one of her letters sent the following anecdote to a friend: "The Prince once said to his new surgeon: 'Do you not tremble when you bleed me?' And the little surgeon answered: 'Pardon, sir, it is you who tremble!' and he told the truth."

# Clinical Department.

## AN UNUSUAL CASE OF LARYNGEAL INTUBATION.

By A. BROTHERS, M.D.,

Attending Physician for Diseases of Children, Out-door Department, Bellevue Hospital, New York City.

Intubation of the larynx has, according to Dillon Brown, been performed in two thousand three hundred and sixty-eight cases, and is fast replacing tracheotomy, in this country, as the operation to relieve laryngeal stenosis. As the method, however, is still comparatively new, every case with unusual features deserves being placed on record for the guidance of others.

On April 6, 1889, I was requested to take charge of the seventeen months old baby of Mr. S——. Two weeks previously—on March 23d—Dr. F. Huber, assisted by Dr. A. Schlesinger, intubated the child for laryngeal obstruction due to ascending croup. This was followed by immediate relief. A week later (March 30th) Dr. Huber removed the tube but, owing to recurring dyspnœa, it was immediately re-inserted. On April 5th the tube was coughed out, and during the ensuing twenty-four hours the difficulty in breathing grew worse and worse. When I assumed charge of the case, on April 6th, the child was in a desperate condition, with all the evidences of advanced croup. I succeeded in introducing a two-year tube, with instantaneous relief. Next day the breathing and temperature were normal, and the child was nursing with perfect ease. A week elapsed and the child being apparently entirely well, I removed the tube (April 13th), but within an hour I was obliged to reinsert the same tube. Eight days later (April 21st) I removed this tube and, at the same sitting, replaced it by a one-year tube. This double procedure, done with the assistance of Dr. A. T. Joyce, occupied less than a minute. My object was to have the child cough out this smaller tube, as my experience has taught me to prefer this termination to extraction. Three days later (April 24th), as the child had not coughed out the tube, I felt justified in removing it. Drs. Muldberg and Finklestein were present at the time. After some difficulty—for the tube seemed imbedded in œdematous tissues—the tube was extracted, and this was followed by the coughing out of bloody mucus in larger quantity than I had ever before witnessed. The breathing at once became very labored, and in three minutes the child was suffocating and cyanotic. On the spur of the moment I attempted to introduce a tube without mouth-gag or thread, but the tube slipped down the œsophagus and was swallowed—an accident which had never happened to me before. The gag was at once placed between the teeth, and as the child seemed to breathe its last, I succeeded in getting the small tube into the larynx. The tube which entered the stomach was not noticed by the parents during the excitement of the terrible moment, and I did not wish to alarm them by calling their attention to it. At all events I never heard of it afterward, and presume it was passed unnoticed with a movement from the bowels and thrown away. On the night of April 9th the last tube was coughed out, but as the breathing was somewhat difficult, and as I feared trouble during the night, I preferred to re-intubate. This tube was worn continuously for three weeks—from April 29th to May 20th—when it was expelled during a severe paroxysm of coughing. Since then the child has been in perfect health.

A few reflections on this remarkable case may not be out of place. One of the most interesting questions was in regard to diagnosis. Dr. Huber informed me that, at the time of the first operation, the child was suffering from ascending diphtheritic croup; and I accepted his diagnosis without question. When I first saw the child, two weeks later, the throat was perfectly clear, temperature normal, and beyond some bronchial catarrh, the only condition

present was that of laryngeal stenosis, for which I intubated. After the child passed through the alarming experience of April 24th, when it almost died in my presence, I wrote to Dr. O'Dwyer asking his opinion in regard to the diagnosis and subsequent treatment of the case. He promptly responded, and suggested paralysis of the abductors, or persistent inflammatory œdema as the causes of the long continuance of the stenosis. As the child subsequently coughed the tube out without immediate suffocation ensuing I excluded paralysis, and attributed the stenosis to simple œdema of the larynx. In this view I was supported by Dr. A. Jacobi, who saw the child while it was wearing the tube. Dr. O'Dwyer suggested leaving the tube *in situ*, if necessary, for three or four weeks. This suggestion I carried out, leaving the child alone for three weeks, when it coughed out the tube.

While carrying the tube, it was wonderful to see with what perfect ease the child nursed at the mother's breast. It was only after drinking from the spoon or cup that liquids would enter the larynx, and excite coughing. For several days, while wearing the last tube, a general urticarial eruption made its appearance, but passed away without special treatment.

In looking over the records of published cases, I find that the longest period during which a child carried a laryngeal tube was nineteen days. This was in a child of twenty-six months, intubated by Dr. J. A. Anderson (THE MEDICAL RECORD, July 23, 1887, p. 87). As in my case the tube was worn with interruptions for nearly fifty-eight days, and continuously at the end for twenty-one days, it is the longest case on record in this respect.

Finally, it is interesting to note that the laryngeal œdema undoubtedly present in this case was successfully dissipated by the gentle and continuous pressure exerted by the O'Dwyer tube.

93 MADISON STREET.

## POISONING BY TINCTURE OF IODINE.

DR. A. N. COLLINS, of Detroit, Mich., reports the following case: "I saw the patient, a young woman about twenty years of age, fifteen or twenty minutes after the drug had been swallowed. I found the patient suffering with symptoms of acute gastric irritation and burning of the throat. No other symptoms were marked except those arising from fright at the discovery that the drug was labelled 'Poison.' The patient stated that she had taken at one dose ℥ ss. tincture of iodine, which she purchased that day, and showed me a half-ounce bottle containing a small quantity of tincture of iodine. She had taken the drug by mistake, intending to take medicine from another bottle standing near it. Before taking a little water had been added in a glass, and the whole mixture taken 'at a gulp.' Immediately I gave her a draught of water made thick with starch, followed by a teaspoonful of mustard flour given in water. This was followed by a copious draught of warm water. Vomiting was immediately produced, the vomited matter having the blue color of iodide of starch. I repeated the dose several times until no color-change was produced on the starch, and then gave, hypodermatically, morphine sulphate, gr. ¼; atropine, gr. $\frac{1}{150}$. I left the patient free from pain. Saw her next day and found no trouble beyond an indisposition to take food, and soreness over the epigastrium. The next day the patient was about her work seemingly as well as before her mistaken medication. Judging from this case, I draw the conclusion that tr. iodine, when antidoted, is not so harmful in effect as has been reported. The patient had taken no food for six hours before taking the drug."

AN ŒDEMIC TIDE.—The Boers of South Africa believe that the moon exercises an influence over dropsy, and that the water is always worse at full-moon and wanes as the moon wanes.

# Progress of Medical Science.

A NEW METHOD OF AUSCULTATION.—Dr. Carlo Giorgeri has recently described (*Gaz. degli. Ospitali—British Medical Journal*) an addition to the methods of physical examination at present in use, of which a short preliminary account was given by Professor Aurelio Bianchi, at the Medical Congress held at Rome in October, 1888. That gentleman, on passing an œsophageal tube into a patient's stomach, and applying his ear to the upper end, heard various sounds as the instrument travelled down the gullet, and when its lower end was in the stomach. By fixing a bifurcated, gum-elastic tube, provided with ear-pieces like those of a binaural stethoscope, to the upper end of the œsophageal sound, he contrived an instrument with which he was able to practise what he calls "endo-auscultation," both of the œsophagus and the stomach. Dr. Giorgeri divides the sounds heard in this mode of examination into (1) œsophageal, (2) gastric, (3) respiratory, and (4) cardiac. The œsophageal sounds are produced by the rubbing of the instrument against the walls of the gullet; they are loudest at the two narrowest points of the œsophagus, namely, at its upper aperture opposite the posterior surface of the cricoid cartilage, and at the cardiac orifice. There may also be one or more strictured portions where the sounds are heard with special intensity. Peculiar sounds are caused by abnormal conditions of the walls of the œsophagus, or by foreign bodies adherent to them; and gurgling may be heard if the instrument enters a diverticulum containing fluid or solid food. The sounds heard in the stomach are chiefly of a gurgling nature, or they may be caused by friction against foreign bodies, or against the walls of the viscus altered by organic disease, or by sudden sharp contractions of the organ. The respiratory sounds begin to be heard as soon as the instrument enters the upper aperture of the œsophagus, and increase in intensity as it travels downward, being most distinct a little above the cardiac orifice. If the walls of the stomach or œsophagus are the seat of structural changes, the transmission of the breath-sounds is interfered with to a greater or less extent. The heart-sounds are heard from the middle of the œsophagus downward, and in the stomach. The two sounds are distinct, but more blowing in character than when heard in the ordinary way. Professor Bianchi made some experiments on the effect of the introduction of fluid into the stomach on the sounds heard by endo-auscultation. For this purpose he modified the instrument, by fixing a bifurcated tube to the upper end of the œsophageal sound, one arm of which was of considerable length, and was fitted with a glass funnel at its free extremity, while the other arm was again bifurcated, the two ends being provided with ear-pieces as before. If, after introducing the instrument, fluid was poured through it into the stomach, the cardiac and respiratory sounds at once ceased, and could not again be heard, even on drawing up the œsophageal tube so that its lower end was above the level of the fluid in the stomach, while in the œsophagus itself the heart- and breath-sounds were very indistinct. If the stomach was then emptied, and the instrument again introduced, some time elapsed before any sounds were audible. Professor Bianchi offers as an explanation of this curious effect that, as the vibration of membranes is more perfect the drier and more tense they are, the introduction of fluid impairs the vibratory power of the stomach-walls. He believes that endo-auscultation may prove of great service in the study of diseases of the stomach and œsophagus, and possibly of the circulatory system in the thorax.

NEW REMEDIES FOR SKIN DISEASES.—Schwimmer has lately, in the *Wiener medizinische Wochenschrift*, published the results he has obtained in certain skin diseases by the use of salol, oxynaphtholic acid, salicylate of mercury, and anthrarobin. Salol mixed with starch in the proportion of two to one he finds a very effective remedy in all forms

of venereal sores and in the buboes resulting from them. Iodoform seems to have a more rapid action, but salol has the superiority of possessing no smell. The drug also appears useful in conditions of the mucous membrane of the bladder, when given internally in doses of forty-five to ninety grains distributed through the day. Oxynaphtholic acid did not give good results in venereal cases, acting as an irritant. In scabies, however, it did not irritate, and was an effective remedy. It may be mixed with chalk and soft soap, each ten per cent., with lard. It acted well also in the secondary eczema of scabies, and allayed itching in prurigo. Salicylate of mercury possesses no superiority over the ordinary remedies used in gonorrhœa and venereal sores. Given internally in doses of one and a half to two grains, it was an effective antisyphilitic drug, although apt to cause irritation of the intestine and stomatitis. Anthrarobin was found to have no beneficial effect in psoriasis, but in herpes tonsurans, eczema marginatum, and pityriasis versicolor it acted well, being mixed with collodion in the strength of one in ten.—*Brit. Med. Journal.*

The Influence of Morphine on the Uterine Apparatus.—Dr. Lutaud communicated to the Paris Société de Médicine, three years since, a paper drawing attention to a hitherto unrecognized symptom of the morphine habit. He had found, in a limited number of observations, that morphine exercised a peculiar influence on the ovaries, diminishing and even abolishing menstruation. He now publishes a further and extended series of observations of the same kind, which not only confirm his previous assertions, but afford several therapeutical indications of value. He has remarked the total suppression of the menses in eighteen cases as soon as the amount of morphine attained a certain dose (*The London Medical Recorder*). All the patients had taken to morphine on the advice of their medical attendant for the relief of uterine disorders, which, however, had in every case ceased to exist when they came under observation. The suppression of the flow was therefore due to the influence of the drug and not to the primary ailment. He gives the history of eight characteristic cases of women, under forty years of age, in whom suppression of the menses had taken place with a minimum daily dose of four and a half grains of morphine. He concludes (1) that morphine has an elective action on the uterus, suppressing menstruation and extinguishing the reproductive function; and (2) that this elective influence is characterized by the extinction of all sexual desire. He suggests, therefore, that morphine would prove of service in the treatment of women suffering from affections which are aggravated by the menstrual flow, such, for instance, as fibroid. He has put it to the test in cases of fibroid and cancer of the uterus, and the results appear to him to have been satisfactory.

Malarial Paroxysms in the Fœtus of a Healthy Woman.—In the *Edinburgh Medical Journal*, June, 1889, Dr. Felkin relates two cases in which he observed malarial paroxysms in the fœtuses of healthy women. He suggests the rather striking explanation that the malarial poison was introduced in the semen of the diseased father at the time of conception of the fœtus. In one of the two cases the mother, an English lady, more than eight months pregnant with her first child, consulted him for "pain and a curious sensation in her abdomen." She said she had had several such attacks during her pregnancy, but they had never been accompanied by pain. The attack was sudden. On palpating her abdomen Dr. Felkin distinctly felt the fœtus shaking. The next night, and again the next, the same thing occurred at the same hour. On the fourth night he found her again in the same condition. Labor had set in, the head presenting at the dilated mouth of the womb. As the pains became feeble, and progress ceased, he put on the forceps, and easily delivered the head. The body was extracted with difficulty, on account of the great distention of the abdomen by an enlarged spleen. The child lived, and after seven attacks of ague —with cold, hot, and sweating stages—recovered health, the spleen returning to about its normal size. The mother of this child had never suffered from malaria in any form whatever, the father had experienced very severe intermittent and remittent ague attacks while living in a distant part of the country, and was suffering from them at the time of the conception of the child. In the second case, a Scotchwoman, seven and one-half months pregnant, was ill with pleurisy and bronchitis, and the effects of a beating which her husband had given her. At one of Dr. Felkin's visits the nurse told him that she had suffered on the previous night from a "pain and fluttering in her abdomen like a bad quickening." Being called the evening of the same day at the same hour, he found her in a condition very like that observed in the former case. Two evenings later, after another similar paroxysm, labor set in, and the child was born before he could reach the house. Its abdomen was slightly enlarged. On the night after its birth it had a cold spell, with shivering, lasting half an hour, succeeded by a hot stage of two hours, and a stage of free perspiration. The temperature during the attack ran up to 102.6° F. On the second night after its birth it died in the cold stage of a similar paroxysm. On post-mortem examination the kidneys showed marked cloudy swelling in the epithelium of the convoluted tubules, the nuclei of the cells continuing to stain while the surrounding protopasm was highly granular. The nuclei of the glomerular cells stained distinctly. In the liver many leucocytes were seen to contain very numerous fine granules of a dark brown color. The venous sinuses of the spleen were dilated. Dark pigment granules were observed in many of the leucocytes contained in the sinuses, as well as in the endothelial cells lining them, and in the cells of the surrounding connective tissue. The mother of the child had never suffered from ague. She had three healthy children by her husband. He then went abroad and contracted severe malarial fever. Ten months after his return a feeble child was born, which soon died. About a year later a second child was born, which was sickly and had an enlarged spleen. In these two pregnancies the mother had the same strange feelings like quickening. Dr. Felkin thinks that these cases show that malaria is a specific disease, due to a micro-organism, which may be transmitted by the father to his offspring, just as syphilis may be transmitted.

Psorospermial Cysts of Ureters.—At a recent meeting of the London Pathological Society (*The British Medical Journal*) Mr. Eve showed a specimen which had been sent by Dr. J. Arnallt Jones, of Aberavon, to Mr. Hurry Fenwick, who had handed it to Mr. Eve for examination. The upper parts of both ureters were studded with small miliary cysts full of milky contents. Transverse microscopical sections of the ureters showed cysts of various sizes filled with colloid material, in which were many ovoid bodies which corresponded in appearance and size to psoro-navicellæ. The patient was a woman, aged fifty-one, who had a sudden attack of hæmaturia, with frequent and painful micturition. Death had taken place from exhaustion and anæmia seventeen days after the onset of symptoms. The kidneys and bladder were healthy. Psorospermial cysts had been found beneath the capsule of the human kidney and in the liver. The disease was not uncommon in some domestic animals, and it was very common in the livers of rabbits.

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Medical Scepticism.—At the time when Russian society was at the height of scepticism, the eminent Professor, N. G. Pirogoff, said in one of his celebrated public speeches that the life of every physician may be divided into three periods. The first, when he religiously believes in what he has been taught at the university; the second, when he only believes in what his own experience taught him; and the third, when he believes neither in one nor in the other.

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## THE HISTORY AND COST OF THE DIDACTIC LECTURE.

IT is evident to anyone who has watched the progress of medical education in recent years that the didactic lecture has suffered a great decline in relative importance, as compared with other methods of imparting professional knowledge. Indeed, it is not hazardous to prophesy for it a still further decline in the near future. Nevertheless, it is of interest to study its origin, as its history illustrates an important phase of evolution in the educational world.

We understand, by a didactic lecture, a teaching of abstract truth relative to disease, while the clinical lecture supplies its concrete correlative. The former is a heritage from our fathers. It sprang into being even in the early ages of the world. In our own country it antedates schools and colleges. It had its origin at a time when the minister and the doctor were the only learned men in the community. Books were scarce. Access to the fountains of printed knowledge, particularly in the professions, was granted to but few. Hence came the imparting of information by the physician to his office assistants during the consulting hour, and during the lonely ride. The number of those giving and those receiving instruction gradually increased, so that, to avoid duplicating instruction, the teacher met all his pupils at one place. That was the beginning of a college, and from that origin has been gradually wrought out the medical school of to-day.

That was the best system for its day. In fact, it was the only possible one under the existing conditions. Information was locked up in the brains of a very few. It was not accessible to the many. Now all is changed. The multiplication of the printed page has brought the best and ripest scholarship within the reach of all. Yet the average didactic lecture has run on in the old groove.

In view of this modern progress, the lecturer who has maintained the old reputation of his craft has had to possess an endowment of personal magnetism and enthusiasm to hold his audience. A notable illustration of this was the late Dr. Dalton. His text-book contained practically all that was said in his lectures; but who can forget that breadth of explanation, that contagious love of the subject which pervaded his class-room utterances? It is not given to all lecturers to possess this quality. Now and then a man has the art of expounding his subject well, of making students think for themselves. But the average didactic lecture is dry and, unless the lecturer is an original worker, unmistakably dull. It is retailed out so many times in the course of a session for so much. The information is generally crammed up from a large collection of text-books, flavored with a little experience, and doled out by the hour: price, twenty dollars per session.

No wonder, then, that many didactic lectures are poorly attended. The student knows that he can find all the information in text-books, and sees no reason why he should listen to another's reading of the same. Particularly is this true of a subject like anatomy. It is not a fault of any one man or any one institution. It is a universal one.

The average medical session lasts about twenty-four weeks. The total number of lectures will average, in any one branch, about eighty. The prevailing price for any one study is twenty dollars. The didactic lecture, therefore, has a market-value of twenty-five cents. Inasmuch as a student is compelled to attend two courses of lectures which, in the primary branches, are practically duplicated, he is obliged to buy the article twice over. In a college of six hundred students the gross revenue will, on the above basis, amount in each of the seven departments to about eight thousand dollars.

The successful medical curriculum should be arranged on such a broad basis that to pass in a given subject should not necessitate attendance on the lectures of any one man. It should be broad enough to include knowledge in that branch generally. The didactic lecture will, we believe, gradually give way in the future to a judicious and well-ordered system of recitations. A lesson will be assigned in a text-book and recited, and the medical instructor will assume the functions of the regular teacher of science. This is already the method in the medical departments of Harvard, Yale, the University of Virginia, and some other institutions we might name. Collateral reading is encouraged, and a much broader foundation is laid than by the system so widely prevalent.

## CHROMIC ACID IN SWEATING OF THE FEET.

IF all remedial measures could be subjected to such extensive and compulsory tests as has the chromic-acid treatment of sweating feet, we should soon arrive at many therapeutical certainties.

On July 9, 1888, orders were sent out to all the military surgeons of the Prussian army to use chromic acid in all cases of sweating feet. The directions were that if there be any broken surface the solution must not exceed five per cent. till it heals, after which the solution may be increased to ten. If the sweating be of a moderate character the application must not be made oftener than every six or eight weeks, but if very intense it has to be applied every fortnight for the first month. In the height of summer the whole body may be similarly treated, but two applications are considered sufficient to relieve the most obstinate cases, and it is said to leave no bad effects. This assertion must, however, be received with a certain amount of caution, says the *Medical Press*, as a death following its use caused the order from headquarters to be modified, though it has been assumed that the death was caused by the use of an impure solution. The first order was sent out July 9, 1888, and this modification on No-

vember 30th of the same year. Since then its use was limited to the five per cent. solution in all cases till they proved obstinate.

A report on the results of the use of this remedy was sent in in January, 1889. There were upward of 18,000 soldiers treated by chromic acid during the six months over which the report extends, and the result of the experiment is decidedly favorable. Of these 18,000 patients forty-two per cent. were cured, fifty per cent. improved, and eight per cent. unaffected.

The report subdivides the cases into three degrees of severity: 1. A severe form in which the skin of the foot is constantly wet, red, and swollen, particularly between the toes, the foot tumid and macerated, in which cases the sweat rapidly decomposes and produces an intolerable stench. 2. A middle class is given, of cases in which the sweating is confined to the sole of the foot, which also produces dampness and fetor. The third class comprises cases due to much walking on very hot days. The solution must not be applied by means of brushes made with metal holders, as the chromic acid is apt to decompose the latter, and on this account wood is to be preferred. Again, if bathing the feet be allowed, it must be done in an earthenware utensil for the same reason; but the brush is by far the best means of applying the solution.

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### DILATATION OF THE MALE URETHRA FOR THE REMOVAL OF VESICAL CALCULI.

Dr. Laplace (*New Orleans Medical and Surgical Journal*, June, 1889) reports a case of vesical calculus in a feeble patient, aged fifty-six, who came under his care in October, 1888. He complained of great difficulty in passing water, the stream being full at first, but suddenly stopping before the bladder had become quite empty. Micturition was accompanied by a burning pain at the neck of the bladder. His urine contained about three per cent. of albumen, some pus, and a large quantity of mucus, the bladder being evidently inflamed. His temperature was constantly above 99° F. Upon exploration, calculi about the size of a chestnut were discovered in the bladder. Influenced by the good results claimed last year by Küster, from Küster's modification of Delbeau's operation, which is a para-prostatic section of the urethra with subsequent dilatation of the prostatic urethra and neck of the bladder, Dr. Laplace determined to attempt removal of the calculi by this method. Chloroforming the patient, and placing him in the lithotomy position, he introduced the index of the left hand into the rectum, so as to feel the anterior edge of the pronati, and cut, in the median line, through the perineum, directly upon the guide in the urethra, and, having reached the guide, continued his incision to within a quarter of an inch of the prostate. The whole incision was an inch and a half in length. The guide was then withdrawn from the urethra, and the operation of dilating the prostatic urethra and the neck of the bladder was begun. The whole urethra had been somewhat dilated already by the passage of sounds during several preceding days. Through the perineal incision Simon's dilators were introduced, beginning with No. 1 and ending with No. 8, each being left in position five minutes. When No. 8 was removed, two fingers were easily passed into the bladder, and, after the two calculi had been accurately located, an ordinary forceps was introduced, and they were easily removed. The bladder was thoroughly explored by the fingers, to make sure that no fragments were left behind, and the viscus was then washed out with carbolized water. Two sutures were applied at the extremities of the perineal wound, and the case was treated subsequently as one of simple external urethrotomy. For ten days the urine was passed through the wound in the perineum, but gradually began to flow through the urethra, and on the twenty-sixth day after the operation the perineal wound healed. For a few days after the operation the bladder was washed out through the incision. The patient recovered completely. Sounds were passed daily, after the wound had healed, for the purpose of securing a permanent open condition of the urethra.

Dr. Laplace thinks that this operation, though as yet but little known, will lead to a great improvement in the surgery of the urinary bladder. He concludes with a summary of the points of greatest interest.

1. The operation is very simple; little more, really, than an easy external urethrótomy.

2. The prostatic urethra may be dilated very greatly, with ease and with impunity. This might be naturally inferred from the muscular structure of the prostate, and from the great dilatation of which the uterus, which in the female corresponds to the prostate, is capable.

3. Having now a safe means of access to the male bladder, free from danger to that viscus, there is no reason why we should not, to a very great extent, abandon the old methods of extracting calculi from the male bladder, and employ instead this new method, by which we may with facility extract calculi of any size, with or without crushing, avoiding the serious risks of the older operations. It is suggested that this is a very safe and easy method for the removal of foreign bodies from the urethra and the bladder.

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### LATE PREGNANCIES.

A correspondent writes us regarding the age at which women cease to bear children; or, more specifically, he raises the medico-legal question whether there is an age at which a virgin may be pronounced incapable of bearing a living child, if afterward married or deflowered.

There have been several English decisions to the effect that women of fifty-three or fifty-five years have passed the childbearing age, and if any definite limit can be laid down it is probably about this time. Cases of pregnancy up to the fiftieth year are not very uncommon, according to Tidy. In the famous Douglass peerage case it was established that Lady Jane Douglass, when fifty years of age, gave birth to twins, both of whom lived. Briand cites two cases of delivery, one at sixty-three and one at seventy years of age. There are several cases on record, some well authenticated, of pregnancies occurring between the ages of fifty and sixty. Orfila, for example, cites the case of a woman who had seven children, one at forty-seven, the seventh at sixty. She menstruated until she was ninety-nine years of age! In many of the cases of late pregnancies the whole childbearing period seems to be delayed, so that they cannot be brought up as illustrations of the possibilities of the average woman.

Reports of cases of pregnancy occurring after the age of sixty are but few, and not well substantiated. So that the

extreme limit of possible childbearing may be put at sixty; the limit rarely exceeded, at fifty-five; and the limit ordinarily not exceeded, at forty-five.

As the limit of early pregnancy is eight years, it follows that childbearing is possible in woman between the ages of eight and sixty years.

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### THE SURGICAL TREATMENT OF TUBERCULAR PERITONITIS.

SURGEONS have somewhat blindly stumbled upon the fact that tubercular peritonitis is a disease which is sometimes amenable to treatment. In 1862 Sir Spencer Wells opened the abdomen to remove a tumor, and found tubercular peritonitis. He drained it and the patient got well. In 1879 Mr. Tait diagnosticated a case of tubercular peritonitis, and treated it by opening the abdominal cavity and washing out the peritoneum. Schwartze has collected seventeen cases in which surgeons have opened the abdominal cavity, discovered tubercular peritonitis, and treated it by washing or drainage, or both. In 1887, Kümmell collected forty cases in which the diagnosis of tubercular peritonitis was first made, and operation for its relief performed. Mr. Robert O'Callaghan, in the June number of the *Dublin Journal of Medical Science*, reports four cases, three of which were successful, and he calls attention to the importance and value of surgical treatment.

Chronic tubercular peritonitis is not a frequent disease, and little is said about it in most standard works. Laparotomists have apparently shown, however, that it is not so rare a trouble as has been supposed, and most important of all, they have shown its curability in a minority of cases. Mr. Tait, we believe, claims that tubercular peritonitis is not really tubercular, but on what grounds we are unable to say.

It has to be borne in mind that some cases of tubercular peritonitis recover spontaneously. Deschamps believes that those cases in which the infection occurs through the genital or intestinal canal have a more favorable prognosis. On the other hand, Treves has shown that laparotomy for tubercular peritonitis has always been unsuccessful in young children.

The diagnosis of the disease is not always easy. Primary tubercular peritonitis runs a somewhat obscure course. The principal diagnostic symptoms, according to Cimbali, are low temperature, comparative absence of pain and tenderness, and copious ascites.

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METHACETIN—A NEW ANTIPYRETIC.—Dr. Franz Mahnert, assistant to Professor von Jaksch, describes, in the *Pharmaceutische Post* for April 7, 1889, the most recent addition to our rapidly growing list of synthetic medicinal compounds. This time it is an antipyretic, and in composition might be described under the name of para-acetanisidin, its formula being

$$C_6H_4 \begin{cases} OCH_3 \\ NH.C_2H_3O. \end{cases}$$

In doses of from two to three grains, given to children, it exerts a marked antithermic action, the reduction of the temperature being gradually produced, remaining for several hours at the lowest point, and then gradually increasing. Frequently marked perspiration is produced by its use within an hour after its administration.

## News of the Week.

THE LIBRARY OF THE LATE DR. JEWELL, OF CHICAGO, numbering about 3,000 volumes, has been secured as the nucleus of a medical library. Dr. Jewell's portrait, it may be remembered, was purchased by the New York Neurological Society and presented to the Academy of Medicine.

THE GOVERNMENT OF CHILI has created a "Superior Council of Public Hygiene," consisting of seven members, whose duty it shall be to advise the Government in everything that relates to the public health throughout the Republic. The Council has a laboratory for chemical analysis under its control.

THE recent legislature of Texas voted $50,000 for the establishment, at Galveston, of a medical branch of the State University.

M. BROWN-SÉQUARD announces that the injection of ovarian tissue-juice into debilitated women has been tried and without bad effects. He also says that the stimulating effect of the hypodermic injections made upon himself continues, he having now gone sixteen days without any repetition of the injection.

ZOSTER-EPIDEMICS.—Professor M. Kaposi, in a recent clinical lecture, says that nearly every spring and fall there occur epidemics of herpes zoster in Vienna; the favorite months are March and April, October and November.

DISPENSARIES IN CHINA.—The *China Medical Missionary Journal* says: "In Southern China, numerous preaching halls are opened to counteract the influence of Gospel halls, and dispensaries are established to render the dependence of the people on foreign doctors unnecessary. Girls' schools, too, are opened in Canton, near to those of our missionary ladies, with a view of taking away the scholars and saving them from contamination by false doctrines." An account is given of a hospital for incurables, established in Canton, to which there were, during one year, nine hundred and thirty-seven admissions with six hundred and seven deaths.

A GOVERNMENT HELPS A MEDICAL JOURNAL.—The Chilian Government having agreed to increase the grant to the Medical Society for the expenses of their journal, the *Revista Médica*, the editor promises that it shall be very much enlarged and improved. It has been in existence for some seventeen years, but has not obtained a sufficient circulation to enable it to attain financial success.

AN ATTEMPT AT BLACK-MAIL of the most serious and despicable character was recently made against Mr. Malcolm Morris, of London, by a black-mailer named Grandy and a prostitute co-conspirator. They charged Mr. Morris with having, after immoral relations with the female prisoner, broken a promise of marriage made to her, but they were met, unexpectedly, by Mr. Morris handing them over to the police. It was then ascertained that this was not by any means the first speculation of this sort by the pair, and, notwithstanding the plea of their lawyer, that they had simply mistaken Mr. Morris for some other person, they were "sent up" for five years and eighteen months respectively.

EXECUTION BY ELECTRICITY.—Dr. B. Sachs, of this city, writes: "Your short editorial in the RECORD of July 20, 1889, on 'Death by Electricity' contains, among other statements in which I concur, the remark that 'the question is really and solely one of æsthetics.' As one of the expert witnesses in the Kemmler case, I beg permission to give a few figures which are intended to show that the æsthetic difficulties are not greater than the mechanical ones. Few medical men, I am sure, realize the data involved in this problem of execution by electricity. It has been proposed to use a dynamo yielding 1,500 volts. According to Jolly, Gärtner, and others, human resistance is often equal to 500,000 ohms (in round numbers). Now what would happen in case a criminal offering such resistance were subjected to the current of 1,500 volts? Ohm's law reads: Current strength equal electro-motive force, divided by resistance; or, $C = \frac{E}{R}$. In the above case $C = \frac{1500}{500000}$, or $\frac{15}{5000}$, or $\frac{3}{1000}$ amp. Instead of being killed, the criminal would receive at the start a current of 3 m.a. Inasmuch as the resistance diminishes quickly, leaving aside the fact that death should be instantaneous, let us suppose that after thirty seconds the resistance had been reduced to 50,000 ohms, the equation would then read: $C = \frac{1500}{50000} = \frac{3}{100}$ amp., or about 30 m.a.; still a very small current, and far below the 150 or 200 m.a. which many gynecologists use. It is not sufficient to know that a current *may* kill; it *must kill*. A current of fully two ampères would be certain to kill; to send such a current through the body would require a dynamo at least one hundred times stronger than any which has been constructed up to date. You will therefore grant that, in view of such facts, killing *cito et jucunde* by electricity is not as easy a matter as most people suppose; and there is no escape from the conclusion that the gentlemen who proposed using electricity, and those who ordered the plant for the Auburn prison, were not acquainted with the known facts regarding human resistance.

[The question is either misapprehended or not quite properly stated by our correspondent. It is the question of what is the resistance of the human body when proper contact with large, well-moistened electrodes is made. Under these conditions the electrical resistance is neither very great nor very variable. The electrical experts who have referred to the enormous resistances of the human body refer to it as taken under peculiar conditions, and their evidence is consequently not at all to the point. With proper contact the human electrical resistance is not likely to exceed 2,500 ohms, and this is instantly and very much reduced. A current represented by the formula $CS = \frac{1500}{50000}>$, passed through the brain, instantly kills, as experiments on animals show. In consideration of the fact recently shown by Mr. Edison, after testing 250 persons, that the resistance of the human body with proper contact ranges from 660 to 1,500 ohms, and averages only 1,000 ohms, the "expertness" of the testimony which intimates that the resistance is 500,000 ohms may be seriously doubted.—ED.]

DR. PHILIP F. BRAKELEY died at his home in Belvidere, on July 3d, of heart disease. He was for many years Secretary of the Warren County Medical Society, and was a prominent member of the State Society. He was seventy-four years of age at the time of his death.

THE FLOATING HOSPITAL OF ST. JOHN'S GUILD has been making regular trips since July 9th.

THE SEA-SIDE HOSPITAL FOR CHILDREN at New Dorp, S. I., was opened for the reception of patients on July 9th.

THE *Weekly Medical Review* comes to us in an enlarged and improved condition.

AN AMBULANCE SYSTEM FOR LONDON.—A scheme has been brought before the Sanitary Committee of the London County Council for the establishment of an organized ambulance system throughout the metropolis.

DR. THEODORE DIMON, of Auburn, N. Y., died July 23d, aged seventy-two years. He was an old army surgeon, prison physician, and ex-Superintendent of the State Insane Asylum at Auburn.

AT a special meeting of the staff of the Orange Memorial Hospital, held Tuesday, July 9, 1889—all the members being present—the following action was taken upon the death of Dr. Stephen Wickes:

*Whereas*, In His infinite wisdom, our Heavenly Father has taken to himself our beloved colleague, Dr. Stephen Wickes;

*Resolved*, That this staff has lost a most faithful co-laborer. He was zealous and devoted to all the duties pertaining to his office as a medical attendant of this institution. He was an earnest Christian gentleman whose character and disposition were moulded by Christian grace. He was modest, retiring, kind, considerate, charitable, and always ready to give of his time and strength to those in need. He was beloved by those to whom he ministered, and by those with whom he was associated in relieving the sufferings of the sick. Words do not truly express the veneration, respect, and esteem which were accorded to our deceased friend and professional brother by all who knew him within medical circles and by the general community. His literary labors have resulted in the production of much valuable matter, especially of an historical nature, that will serve as a memorial of a useful life. To his family we offer our heartfelt sympathy in their great sorrow, but they still will share with us a joy and comfort that Dr. Wickes was ripe in years, rich in honors, and sure of a reward for a helpful and blameless life.

T. R. CHAMBERS,
THOS. W. HARVEY,
GEO. BAYLES,
*Committee.*

THE AMERICAN RHINOLOGICAL ASSOCIATION will hold its seventh annual meeting at Chicago, Ill., August 28, 29, and 30, 1889. The Committee on the Examination of the Inmates of Insane Asylums will make their report, "On the Relations of Rhinal Inflammations to Mind Affections," at this meeting.

TRAINED NURSES.—The Memphis School for Trained Nurses recently graduated its first class. This is the pioneer training school of Tennessee.

THE STATE OF MINNESOTA, like the State of New York, organized and built an inebriate asylum ten years ago; then they changed it to an insane asylum. A law was passed confining inebriates to insane asylums, and now one of the released inebriate patients makes a protest against this practice.

EUCALYPTOL IN HEADACHE.—Dr. M. J. Lewis (*Medical News*) states that eucalyptol, in doses of five grains, six times daily, is useful in headaches, particularly those of a congestive character.

SIR GEORGE PORTER, of Dublin, who was knighted two years ago, received the higher and hereditary distinction of a baronetcy on the Queen's birthday. It was thought that Dr. Banks, of Dublin, late President of the British Medical Association would be honored in the same way. But he declined a knighthood two years ago, and that is probably the reason why a baronetcy was not offered him.

THE CARTWRIGHT PRIZE ESSAY.—At the recent Commencement of the College of Physicians and Surgeons of New York, it was announced that the Cartwright Prize had been awarded to an essay written conjointly by Dr. Hobart A. Hare and Dr. Edward Martin, of Philadelphia. But the successful competitors voluntarily surrendered the prize because their essay had just been awarded a prize elsewhere. It appears that the essay had been put into competition for both prizes, with the expectation that the decision of one prize would be made early enough to permit them to withdraw from the second competition in case they were successful in the first. But owing to delay in the decision of the prize which should have been announced first, and to absence of the authors from home when the announcement was finally made, there was no opportunity for the intended withdrawal before the award of the Cartwright prize was published. The award of the Cartwright prize has consequently been reconsidered, and the prize has been granted to Dr. Ira Van Gieson, Assistant Instructor in Normal Histology in the College of Physicians and Surgeons of New York, for his essay entitled "Studies in Neural Pathology, embracing (1) A Report of a Case of Syringomyelia; and (2) A Contribution to the Pathology of the Laryngeal and other Crises in Tabes Dorsalis." Signed, Charles McBurney, M.D., President of the Council of the Alumni of the College of Physicians and Surgeons of New York; George C. Freeborn, M.D.; W. P. Northrup, M.D.; and B. Farquhar Curtis, M.D., *Prize Committee.*

THE VARIOUS CONGRESSES OF LEARNED SOCIETIES have begun their work in Paris. A Medical Section was opened on June 11th, under the presidency of M. le Dr. Leroy de Méricourt, and some interesting papers were read. Among them was one by Dr. Florain, on the curious subject of the "Action of Human Saliva on Plants," one by M. le Dr. Moreau on the "Contagiousness of Crime," and one by Dr. Motais on "Heredity and Myopia." Dr. Montessus tried to show a "frequency of metritis in young girls"—he might have been in better business. Dr. Fabre presented a lengthy treatise on the "Hygiene and Diseases of Miners." M. Guelpa communicated the results of a study of tetanus.

CURES FOR THE OPIUM HABIT IN CHINA.—Dr. A. P. Peck writes in the China *Medical Missionary Journal:* "As no one is aware of the extent of the traffic in opium among the Chinese, or of the use of it as an intoxicant, so no one knows the extent of the trade in opium-cures among the natives, or of the demand for them by opium-users. The writer has met with frequent instances of breaking off the opium habit by smokers, both by force of will without the aid of medicine, and also in connection with the use of some native remedy prepared for the purpose. There are, doubtless, hundreds of such formulæ scattered through the country, jealously guarded by the owners, or only transmitted to a favored few. But besides these, there are large dealers in this line; there is at least one firm dealing in nothing but anti-opium pills, which has branches in every province of the Empire. The account of their operations reads like the record of some of our great Western houses. Their employees are numbered by hundreds, and their advertising bills foot up into a surprising number of thousands of taels. There is said to be hardly a mart in the Empire, from the small village fairs to the largest '*huis*,' where their posters cannot be found."

A NEW HEART-POISON was at the June 17th sitting brought to the attention of the Academy of Sciences by Dr. Arnaud, of the Museum, already known for his researches on ouabaïne and strophanthine. The active principle there shown in fine colorless crystals has been by him extracted from "tonguin," an ordeal poison of the Madagascar natives, and named tonghinine, from the botanical name, *Tonghinia toxifera*, of the plant producing the substance. A limited number of physiological experiments instituted by Dr. E. Gley, show the new chemical to be very poisonous, and to act on the heart, much after the fashion of ouabaïne and strophanthine. The resemblance will astonish no one, considering that tonghinia belongs, like the plants furnishing these, to the Apocyneæ family.—*Therapeutic Gazette.*

ANOTHER DISCOVERER OF THE MICRO ORGANISM OF CANCER.—Dr. Thoma, of Dorpat, in a recently published paper, claims to have discovered singular microbic organisms in the epithelial cells of carcinomatous tumors. The observer found small cell-like structures in the epithelial nuclei of carcinomata which differed so materially from all known kinds of cells that he felt compelled to classify them among the parasitic organisms. These microbes, for which thus far no pathogenic claim has been extended, are one-celled organisms measuring four to fifteen micro-millimetres in diameter, and can be seen distinctly with the aid of hæmatoxylin, safranin, eosin, and alum-carmine. They consist of protoplasm and a nucleus, have a regular round or oval form, and show a strong refraction of light. Thoma has repeatedly seen them single or in clusters of four to six embedded in the epithelial nuclei of carcinomata of the breast, of the stomach, and the intestinal tract. No pure cultures, nor other experiments which might serve to determine the exact nature of these microbes, have thus far been reported by Thoma.—*Therapeutic Gazette.*

GLYCERINE IN DYSPEPSIA.—Dr. J. A. Pollard claims (*Therapeutic Gazette*) that glycerine, in drachm doses, will be found most valuable in preventing stomach troubles in convalescence from debilitating diseases; that it will often cut short an attack of indigestion, and that it will prevent and cure a large proportion of cases of "summer diarrhœa" of children. It will also to a great extent control the vomiting of pregnancy.

THE SMALL-POX SCARE, which caused so much excitement at Castle Garden last Sunday, on investigation proved to be a case of measles.

# Society Reports.

## AMERICAN NEUROLOGICAL ASSOCIATION.

*Fifteenth Annual Meeting, held at Long Branch, N. J., June 26 and 27, 1889.*

FIRST DAY, JUNE 26TH—MORNING SESSION.

DR. E. C. SEGUIN, PRESIDENT, IN THE CHAIR.

DR. MORTON PRINCE, of Boston, presented a paper on

### MALARIA AS A CAUSE OF DEGENERATIVE DISEASES OF THE SPINAL CORD.

He spoke of the frequency of tabes and other spinal degenerations in cases which also presented a history of malaria. The first case he had recorded was one of locomotor ataxia with typical tabetic crises before each malarial chill. Another had gastric crises regularly once monthly; and another, crises beginning with rigor and followed by diarrhœa, this occurring every three weeks. The latter case had been diagnosticated as malaria by the family physician. Altogether the author reported in detail six cases showing the coexistence of tabes with malaria, and six cases where the malarial history was associated with disseminated sclerosis. Besides these he had notes of three other cases of multiple sclerosis, two of locomotor ataxia, and one of lateral sclerosis with a similar relation. Generally the malarial poison was present in the system previous to the development of spinal symptoms. He pointed out coincidences in the course of syphilis and malaria, such as the slowness of action of the poison and amenability to treatment; and also called attention to the relation of the syphilitic virus to tabes. He had found but little to support his etiological theory in literature. Erb, following Schulze, had stated that tabes may occur as a sequel to intermittent fever. Tuczek had proven that tabes could be caused by the ergot parasite. Many nervous disorders are undoubtedly due to malaria, such as neuralgias, anæsthesias, severe psychoses, etc. He alluded to the deposition of pigment in the brain in some cases of pernicious malaria. It would be very important for many army pensioners if it could be definitely determined that tabes and sclerosis might be sequelæ of malaria.

DR. N. E. BRILL said that his attention had never before been directed to the possibility of such a relation, but he thought the details presented were rather too meagre for an absolutely correct decision to be made in the matter. As neuritis and malaria were frequently associated, possibly some of these spinal cases might be coincident in the same manner. Both malarial and cord disorders are very common.

DR. L. C. GRAY saw no reason why the malarial poison should not cause spinal diseases. We do not yet know the exact character of the poison. But there is a sort of periodicity in many spinal and cerebral disorders, as well as in peripheral nervous affections, which is often as marked as that of fever and ague. He had noticed this particularly in intracranial syphilis. Some of these neuropathies were even relieved by quinine, as he had observed in cases of tabes. When we speak of latent malaria and rest our diagnosis merely upon periodicity, there is danger of error. If Laveran and Councilman were right in their discovery of the malarial germ, this should be looked for in such cases as the author had described in order to corroborate with certainty the diagnosis. Improvement or recovery under the use of quinine was no criterion.

DR. E. C. SPITZKA saw nothing in the nature of the case to forbid an etiological association between malaria and cord disorders, but he agreed with the preceding speakers that sufficient proof of such relation had not been adduced. To show an etiological significance, it was necessary to present absolute and intrinsic proof of it. If it could be shown that, as in syphilis, there were at the time of the malarial attack nervous symptoms, it would be a different matter. In the secondary fever of syphilis there was absence of the knee-jerk. Most nervous symptoms in malaria were of a neuralgic character. The anæsthesias differ from those of tabes. It had been found that pigmentary thrombosis and embolism were the most frequent causes of serious nervous disturbances in malaria. He believed, however, that, like any other cachexia, antecedent malaria might predispose to spinal affections. He had observed a case of paretic dementia of the tabetic type which was probably influenced etiologically by severe malaria.

DR. H. M. LYMAN, of Chicago, could recall but two cases where it had been intimated to him that the origin of tabes had been malarial. In one he traced the actual cause to a subacute spinal meningitis coming on after exposure to wet and cold. The other case, instead of being true tabes, had proved to be a rheumatic neuritis. He had in his experience seen nothing to support the idea of a malarial etiology in tabes. A complete and perfect history, together with a microscopical examination of the blood, should be required for an indisputable diagnosis of malaria.

THE PRESIDENT could not recall a single case of tabes or multiple sclerosis which presented any relation to malaria.

DR. PRINCE thought there could be no question as to the correctness of diagnosis as regarded the nervous symptoms in his cases; and as to the antecedent malaria, all of his cases were men who had been in army service, and he had documentary proof of their having suffered from that poison, in the shape of government records. The really doubtful question was whether the malarial poison still existed in the system at the time of the development of spinal disorders. In some of them there was evidence of its persistence in the shape of typical malarial rigor and pyrexia. He did not consider his etiological explanation decisive, but merely suggestive.

DR. SPITZKA thought that there were many cases of nervous disease owing their origin to exposure during the war which were contemptuously rejected by the Pension Bureau. It seemed to him that the Association ought to call the attention of the Government to the great injustice which might be done.

THE PRESIDENT, although once an army surgeon, and therefore prejudiced in favor of the soldiers, had been, on the contrary, struck by the vast number of fraudulent nervous cases which were awarded pensions.

Dr. W. M. Leszynsky, of New York, was then elected to active membership, and Mr. Victor Horsley and Dr. David Ferrier, of London, were elected to honorary membership. The resignation of Dr. A. D. Rockwell, of New York, was accepted.

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AFTERNOON SESSION.

DR. B. SACHS, of New York, reported a case of

### NUCLEAR OPHTHALMOPLEGIA WITH POLIOMYELITIS (POLIOENCEPHALITIS SUPERIOR AND POLIOMYELITIS).

The relation between these two forms of disease, which had been suspected by Hutchinson, Mauthner, and others, was proven by this case. But one other was on record, that of Seligmuller. The history of the patient was, briefly, that a ptosis of the right eye gradually developed, followed after a few months by ptosis of the left eye also, and soon after a paresis of all the external ocular muscles of both eyes appeared. This resulted in almost absolute fixation of the right eye, but left a slight inward and upward movement of the left. There was immobility of the left pupil to light, but not to accommodation. The right could not be examined because of corneal opacity. During the development of this nuclear ophthalmoplegia,

a subacute poliomyelitis affecting the entire right leg supervened. There was now marked atrophy of the entire right leg. The knee-jerk was lost on both sides. There were no sensory disturbances. There were no tabetic symptoms, and the patient's condition was normal in all other respects. This case proved that the affection of the nuclei in the floor of the third and fourth ventricles was due to the same pathological process which gives rise to poliomyelitis when it affects the gray matter of the cord.

Dr. Spitzka said the report of the case had been so complete, and there being but one other such case on record, it did not admit of either criticism or comparison. He referred to Thomsen's case of unilateral nuclear paralysis, where there was a gummatous infiltration on both sides, and the explanation of which was to him quite impossible.

Dr. Sachs asked if fibres could be traced up through the ciliary nuclei.

Dr. Spitzka answered in the affirmative, and made black-board drawings illustrative of their course.

Dr. W. N. Bullard, of Boston, then presented, for Dr. J. J. Putnam, a skull which was a remarkable example of

HYPEROSTOSIS CRANII.

The case had been reported to the Association two years ago. The patient was a woman, thirty-one years of age at death. The chief symptoms were headache, broadening of the head, dropping out of the teeth, loss of hearing, vertigo, beginning gradually some years ago. There was extreme exophthalmos. There were no retinal changes. Extensive pachymeningitis was discovered at the autopsy. There was thinning and atrophy in parts of the skull. The orbital cavities were greatly diminished in size. Virchow considered hyperostosis cranii due to inflammatory changes. In this case, probably, the inflammation originated at the ear. Dr. Putnam had a patient now with similar symptoms, in whom the exostoses were first noticed in boyhood, and desired the opinion of members as to the justifiability of removal of certain exostoses for the relief of pain. Dr. Bullard himself thought it might be difficult to determine which of the exostoses produced the pain. Some of the exostoses were very diffuse, and the operation might have to be extensive.

The President believed that the pain would be more apt to originate from basal lesions, possibly dural inflammation about the issuing nerves. The jaw in this case was interesting because of its senile conformation and angle, despite the youth of the patient.

Dr. W. N. Leszynsky, of New York, read a paper entitled

SPONTANEOUS DEGENERATIVE NEURITIS OF THE BRACHIAL PLEXUS.

The patient was a laborer, aged thirty-eight. He first had pain in the left shoulder, shooting down the arm, which was ascribed to exposure to wet. There was then no involvement of the shoulder-joint and the motility of the arm was unimpaired. All the muscles reacted well to faradism, except the deltoid, which was atrophied. There was no sensory disturbance, but there was pain on pressure. Gradually other muscles became paralyzed, until a large number of the arm-muscles were useless. The paralysis was accompanied by pain so excruciating that the patient could not sleep at night. A feeling of numbness extended from the shoulder down the arm over the radial distribution, and a gradual anæsthesia and analgesia supervened throughout the same area. The faradic excitability disappeared, and there was galvanic hyperexcitability. Then he began gradually to improve, and will ultimately recover. The case was remarkable in its severity, in its idiopathic origin, and in the escape of the median and ulnar nerves from the inflammatory process. Not more than one case had, to his knowledge, been found in literature.

Dr. Prince thought it would be difficult in the early stages of such a case to distinguish it from progressive muscular atrophy of the shoulder type. He recalled a case of his own in which there was every reason for considering it to be neuritis. It began with cramps such as are observed in writer's cramp, and it was several years before other symptoms proved the case to be one of progressive muscular atrophy. The most common cause in such cases as the author's was traumatic arthritis, but generally the results are slight.

Dr. W. R. Birdsall had seen this case before, and was impressed with the idea that it might be a periarthritic affection, but the author's careful study of the case seemed to exclude this. He recollected that at that time there was some anchylosis of the shoulder-joint in the case.

The President considered the study of the differing resistances in the healthy and diseased arm made by the author interesting, and asked if any member had had experience in such measurements.

Dr. Gray had noticed much variation in resistance in many of his patients from day to day.

Dr. Starr had measured the resistance in Basedow's disease, and had found it to vary within a thousand ohms, in the same cases, from time to time. Electricity was diffused through muscular better than any other tissue. The chief resistance was in the skin. Probably but little of the current permeated nerves, and hence alterations of nervous tissue would not have much to do with the variations mentioned by the author.

Dr. G. M. Hammond stated that it was well known that the resistance differs from day to day in animals. He asked if in this case it had been measured for a number of times, and was answered that eight trials had been made.

Dr. Birdsall thought the question of resistance had little to do with our study of disease. It was easy to explain the numerous variations by the wide differences in vascularity and moisture of the tissues at different times. It might be due in this case to paralysis affecting the physical condition of the tissues. The saturation of the epidermis by perspiration would explain the variations mentioned by Dr. Gray. He had made measurements in cases of Basedow's disease some time ago, and believed the diminished resistance found due to the moisture of the skin. It could not depend on dynamic conditions in the nervous system, but was purely a matter of physics, about which there was no great mystery.

Dr. Gray said the explanation by moisture of the skin was not applicable in his cases. The differences which he had observed were not owing to the humidity of the atmosphere, although atmospheric conditions might possibly induce dynamic changes in the body.

Dr. Sachs pointed out that on one day the author's case showed 580 ohms increase on the diseased side, and on another day 1,170 ohms increase on the sound side. Such variations evidently had little to do with the pathological process in the patient. Eulenberg had measured the resistances in cases of paralysis agitans and of Basedow's disease, but without any practical results. As such measurements were very complex, they required exceedingly great care.

Dr. Prince objected to the use of the palm of the hand for precise experimentation, owing to the great variability of the thickness of the skin, and consequently of the resistance. He thought the forearm ought to be used.

Dr. Leszynsky had not brought forward the question of resistance in this case as a diagnostic symptom. It was increased in the affected arm at every examination. With subsidence of the symptoms the resistance gradually diminished, but there was a difference between the sound and morbid side throughout the disease. As to the question of moisture, there was excessive perspiration upon the paralyzed arm, while the normal arm was dry; in spite of which, the resistance was greater upon the former. He

thought it better to place the electrode upon the wrist than in the hand. There was no antecedent traumatism in the case; the roughening of the shoulder-joint was the result of the paralysis.

Dr. M. Allen Starr, of New York, then presented a specimen of an

INTERPEDUNCULAR MYXOSARCOMA.

It lay in the middle cranial fossa in the median line between the crura cerebri, which it separated. It extended into the lateral ventricles, separating widely the caudate nuclei and optic thalami. The patient was a male, aged twenty-one months at death. At the age of thirteen months, in October last, a lateral nystagmus had been observed in both eyes, varying from time to time. Drs. Knapp and Roosa found a slight pallor of the optic disks, which they considered normal. Later exophthalmos developed, gradually increasing until death. Convergence of the eyes was impossible, although no paralysis of a cranial nerve was discoverable. The reflexes of the iris were lost. Toward the middle of April, this year, the child became unable to walk. The knee-jerks were exaggerated, there was ankle clonus, and typical spastic rigidity. Finally, the back could not be held up, and later the head could not be supported. There was gradual emaciation. There was no apparent headache. From time to time the scalp was congested. About this time the pallor of the optic discs indicated atrophy. There was no blindness, no hemiopia, no aphasia, as far as could be ascertained, in so young a child. Toward the middle of May ataxia of the arms developed, but without loss of muscular power. June 8th, vomiting and Cheyne-Stokes respiration came on, and the child died in nine hours. The diagnosis of tumor had been made, but the question of localization was of great interest. Nystagmus was not a localizable symptom, but had been found most frequently in lesions of the corpora quadrigemina. The exophthalmos indicated intracranial pressure; the gait disturbance led one to think of a cerebellar lesion; while the ataxia of the hands pointed to a basilar trouble affecting symmetrically either the pons or the medulla. The question of operative interference had been considered, but he had opposed that proposition because of the difficulty of localizing the tumor. The autopsy proved that the pons was not even pressed upon, and that the cerebellum was normal. There were twenty ounces of fluid in the ventricles. He would ask if there was any localizing value in nystagmus or exophthalmos, and what was the probable cause of the ataxia.

The President, in referring to the question of ataxia, recalled a case of remarkable bilateral ataxia, with optic atrophy, where a large interpeduncular tumor was found between the crura. He thought such ataxia was to be accounted for by pressure upon the motor tracts or motor nuclei. To him the most puzzling feature of Dr. Starr's case was the absence of blindness. As to the nystagmus, it had as yet, in his opinion, no localizing value. He had seen two cases with lesions of the quadrigeminal bodies, but without nystagmus.

Dr. Leszynsky said the child may have had only central vision, which might explain the presence of nystagmus; but Dr. Starr answered that the visional fields were normal.

Dr. Sachs was reminded of Meynert's case of tumor in both optic thalami, with ataxia similar to that of Dr. Starr's case. He thought the thalami might have been pressed upon in the latter, but still was not sure that that would cause the ataxia. He considered nystagmus very frequent in many central disorders of children.

Dr. H. M. Lyman referred to a case he had seen recently of defective cerebral development in a child where there was also nystagmus.

Dr. Gray asked how a diagnosis of intracranial tumor had been made so early in this case, and was answered that the diagnosis had not been made until all the symptoms described had made their appearance.

Dr. Hammond thought ataxia depended upon injury to the optic thalami or corpora striata, and referred to a case of Weir Mitchell's in which there was a remarkable unilateral ataxia, with a lesion of the optic thalamus and corpus striatum upon the opposite side.

Dr. Leszynsky saw a child, several years ago, with well-marked nystagmus, which disappeared in the course of time. There was no discoverable cause.

The following gentlemen were then elected to active membership: Dr. C. Eugene Riggs, of St. Paul, Minn.; Dr. H. S. Upson, of Cleveland, O.

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Second Day, June 27th—Morning Session.

Dr. E. C. Seguin, President, in the Chair.

Dr. George W. Jacoby, of New York, opened with a paper entitled

A CONTRIBUTION TO THE STUDY OF ANÆSTHETIC LEPROSY, WITH SPECIAL REFERENCE TO PARTIAL SENSORY DISORDERS.

The points to which particular attention should be paid in all cases were the electrical excitability of the muscles, the condition of the reflexes, the presence or absence of fibrillary twitchings, and the condition of sensation. Upon these data depended the diagnosis between anæsthetic leprosy and syringomyelia, as well as that of the central or peripheral localization of the leprous process. The conclusions arrived at by the author from the analysis of his own and other cases were that the differential diagnosis between the two diseases could not always be made; that partial sensory disorders are not characteristic of syringomyelia, but may occur in anæsthetic leprosy as well as in purely peripheral affections; and finally, that a differential diagnostic point between central and peripheral loss of temperature sense may lie in its complete loss in the one case and its partial loss in the other.

Dr. Starr said that the same question as to the differential diagnosis between syringomyelia and anæsthetic leprosy had only recently occurred to him. Three weeks ago he had seen a case, with Dr. Prince A. Morrow, of New York, in which there had been a gradual onset of an atrophic and anæsthetic affection of the right arm. He came from the Sandwich Islands and had been exposed to leprosy. There was anæsthesia to temperature and pain, but not wholly to touch, along the hand and part of the arm. There were three small reddish-brown spots on the arm, which Dr. Morrow considered leprous in character. The idea of syringomyelia at once occurred to him, but the history of exposure in a leprous country sufficed to make anæsthetic leprosy at least the more probable nature of the disease; but without such history it would have been almost impossible to make the diagnosis. As to the matter of partial loss of sensation in the cases of multiple neuritis and beriberi he had seen, the sensory loss was complete, with the exception, however, of muscular sense.

The President remarked that he had now under observation a case of leprosy, but had as yet made no careful examination of the temperature sense. His case illustrated the ease of diagnosis at an early period, when confusion with syringomyelia could not occur. The patient had a wine-colored eruption on the entire left leg and part of the thigh, the foot being free, and there were three or four similar spots on other parts of the body. There was distinct analgesia and some anæsthesia in these areas, but there was no paralysis or atrophy. The patient had come from the Sandwich Islands. The well-defined limitation of anæsthetic areas showed that it could not be neuritis. Of late the anterior leg muscles had become paretic, but there was no reaction of degeneration. The left hand was beginning also to manifest similar symptoms. There were no ulcers.

Dr. C. K. Mills had seen two cases of leprosy. He thought the author's point with regard to partial sensory disorder very interesting, but he did not see why there

should not be partial disturbance also in neuritis, and, in fact, in traumatic neuritis it was quite frequent. The nature of the sensory disturbance depended upon the extent of the injury to the nerve. In ordinary multiple neuritis it might be true, as Dr. Starr insisted, that there was complete loss of sensation, through destruction of all the sensory fibres. He did not see, however, why the sensation to cold should not be injured as much as any. It should be borne in mind that in all infectious diseases attacking the nervous system there was a tendency to seize upon the central as well as the peripheral portions at the same time.

Dr. Gray agreed with the last speaker as to partial sensory disorders met with at times in peripheral neuritis. He had observed it also in multiple neuritis, where, for instance, there was impairment of touch and temperature sense, yet the pain was excruciating. He did not see that it was easy to diagnosticate syringomyelia, and Wichmann and Starr had given no rules for diagnosis in their pamphlets. He believed that no one had made a diagnosis of syringomyelia in life.

Dr. Starr stated that Schulze had made the diagnosis in three cases, which had been substantiated by autopsy. The points for diagnosis were the general conclusions drawn from a study of collected cases. Anna Baumler had brought together one hundred and sixteen cases, to which thirty or more had since been added.

Dr. Gray thought these diagnostic points would apply to many other spinal lesions.

Dr. Birdsall had had similar ideas to those of Dr. Gray as regarded the diagnostic indications in syringomyelia until he had read Roth's collection of cases. In a certain number of such cases there were clinical pictures differing altogether from other spinal lesions and from peripheral neuritis. Disturbance of the temperature sense was the particular characteristic. Still the testing of this sense had been constantly neglected in studying other spinal cases, and it was possible that it might often be disturbed in other spinal disorders. It was hard to see how any other lesion could produce precisely the same symptoms as those of syringomyelia. It was a question whether tracts for temperature and pain could be localized in the cord. Peripheral nerve lesions might cause injury to some sense fibres and not to others, although generally all are injured, particularly where the inflammation is truncal in character. There might be partial sensory disturbance in dermal forms.

Dr. Gray said it was easy to localize disease in the anterior cornua, in the lateral and posterior columns of the cord, but the diagnosis of central lesions was very difficult. The fact that, out of one hundred and fifty cases of syringomyelia, only three had been diagnosticated during life, proved the truth of his assertion. The diagnostic suggestions given were therefore empirical. The presence or absence of temperature sense had not been sufficiently tested as yet. How would one distinguish a chronic central myelitis?

Dr. Birdsall stated that central myelitis began acutely, and thus differed from the slow advance of syringomyelia.

Dr. Mills thought the question of partial sensory disorder most interesting. But he thought that there would be more apt to be partial disturbance in a truncal neuritis than in a dermal.

Dr. Peterson asked the President if the tendon reflexes were exaggerated in his case of leprosy, and was answered in the affirmative. He had asked this because he had recently read an interesting study of the reflexes in anæsthetic leprosy made by Dr. Suzuki, of Tokio, and published in the *Sei-a-Kwai Medical Journal*, in which there was an analysis of seventeen cases. One had normal reflexes, while all the others had increased tendon jerks, and in some of the cases there was even ankle clonus. The conclusions arrived at by the author were similar to those of Dr. Jacoby.

The President called attention to the fact that so many cases of leprosy were now being continually imported into the United States. It seemed as if the country were threatened with its domiciliation. It was a question whether it was not the duty of physicians having such cases to report them to the authorities.

Dr. Sinkler mentioned the recent presence of two cases in Philadelphia. The physician in charge had been fined by the Board of Health for not reporting them.

Dr. Prince wondered at the manner in which leprous patients were allowed to go about, and thought also that the attention of the authorities ought to be called to the disease, and reports to the Boards of Health ought to be required.

Dr. Gray knew that in the East, where the disease is prevalent, isolation is practised. He wished to know what the actual danger of contagion was.

Dr. Brill said that the attention of the New York Board of Health had already been called to the matter.

Dr. Jacoby, in closing the discussion, said that Schulze was altogether too positive in his assertions. This author went so far as to contend that cases of leprosy where cavities had been found in the cord were not leprosy at all, but syringomyelia. As for himself, he thought a central lesion probably often exists in this disease, although it is well known that the essential pathology lies in a truncal neuritis. A simple dermal neuritis could not be assumed in leprosy. In his case, for instance, the indurated and swollen ulnar nerve could be distinctly felt. He did not agree with Dr. Gray, that the diagnosis of syringomyelia could not be made. The only danger lay in mistaking it for leprosy. He had only last evening come across a work of Suzuki mentioned by Dr. Peterson, but had noticed the identity of the conclusions of that author with his own, although they were reached from different points of view.

Dr. F. X. Dercum, of Philadelphia, then presented two contributions entitled, respectively,

A DESCRIPTION OF TWO CHINESE BRAINS,

and

A NOTE ON THE PLI DU PASSAGE INFÉRIEUR INTERNE IN THE HUMAN BRAIN.

He exhibited the brains described. Dr. Mills had made a morphological analysis of one in 1886, and descriptions of three Chinese brains had been added to literature by Moritz Benedikt. The six brains thus far analyzed exhibited unusual complexity, due to excessive sinuosity of the gyri, and a tendency to excessive transverse fissuration. The frontal lobes were especially large and complex. There was unusual confluence of fissures, indicative of a low degree of development, such as is often seen in the negro's, and sometimes in the white man's, brain. There was unusual length of the parallel and Sylvian fissures, and eversion of the orbital and temporal lobes.

Dr. Mills said that it was very important to keep adding to our morphological descriptions of such brains, until accurate deductions could be drawn from a very large number.

Dr. Spitzka stated that the dictum that a tendency to confluence of fissures indicated a low type of development, was not accepted by most anthropologists. The more brachycephalic the skull the greater was the development of transverse secondary folds. The elephant, which stands among the highest of mammals, had a broad skull and a tendency to confluence of fissures. The Chinese were not low in development. The internal pli du passage in the negro and idiot was significant only when the general cortical development was poor. The real cause of the location of the chief sulci lay in the inherent architecture of the brain, and was due to the arrangement of groups of cells and fibres; but the secondary and tertiary sulci might be influenced by other factors, such as the course of vessels. While we might never be able to localize the higher functions of the mind, there was something in the physiognomy of the Chinese brain which struck him as differing altogether from that of the Caucasian. But it was not the same

difference as was noticeable between the negro and Caucasian brains. The peculiar moral attitude of the Chinese pointed to some relation between the structure of their brains and the character of their minds. Still he had observed a great difference between these two Chinese brains, and there was no feature in them which might not be reproduced in the Caucasian brain.

DR. DERCUM had not wished to imply that transverse fissuration was indicative of a low type, but thought the unusual confluence showed a lack of cortical development. He did not consider them brains of a low type, but many features such as were found in the brains of the negro and ape were found here also. The excessive sinuosity, however, indicated a higher cortical development. For instance, in one brain there were five well-developed frontal gyri.

DR. SPITZKA had the same idea as Dr. Dercum. As compared with the Caucasian brain, the Chinese was in some respects inferior, and in others exhibited a superabundance of gyri. He spoke of the resemblance between the negro and ape brains. The differences between the brains of the orang-outang and chimpanzee were greater than those between the brains of the chimpanzee and a human being. There was no uniform appearance of the ape's brain. Vogt and another had classified the human brain into three types—the Negro, Mongolian, and Caucasian—corresponding somewhat to the three lower types of the gorilla, chimpanzee, and orang-outang.

DR. M. ALLEN STARR, of New York, then read a paper entitled

THE PATHOLOGY OF SENSORY APHASIA, WITH AN ANALYSIS OF FIFTY CASES IN WHICH BROCA'S CENTRE WAS NOT DISEASED.

In all of these cases collected by the author some form of sensory aphasia was present, and in all the lesion lay in the posterior lower third of the brain. In seven of the cases there was pure word-deafness, and in these the lesion was limited to the posterior portion of the first and second temporal convolutions. In eleven cases there was pure word-blindness, and in these the lesions were found distributed either in the angular gyrus, the occipital lobe, the temporal convolutions, or the inferior parietal region.

In seven cases word-deafness and word-blindness were co-existent, although the use of language was not lost; and in these the temporal convolutions were involved, extending in some to the inferior parietal, angular, and occipital convolutions. The practical application of the localization of aphasia lesions is obvious, for the regions concerned in speech are especially accessible to the surgeon.

Another fact of interest is that it seems to be proven that there is no ideational centre. An idea may be impaired but cannot be wholly destroyed by a single cortical lesion. Thought, being regarded as the play of consciousness along association-fibres between sensory centres, cannot be localized.

DR. LLOYD had now a case of simple homonymous hemianopsia without psychical or word-blindness, and wished to know whether there was any diagnostic importance in this condition as to localization. Was there a preponderance of one hemisphere over another as regarded sensory memories of language?

DR. STARR said that the matter of psychical blindness had recently been discussed by Wernicke and another. A lesion affecting bilaterally both occipital lobes or the association tract produces psychical blindness, but a lesion along either tract itself does not cause this condition. Nine cases of psychical blindness from lesion of one hemisphere alone had been reported.

The election of officers for the ensuing year being then in order, the following were chosen: *President*—Dr. E. C. Spitzka, of New York; *Vice-Presidents*—Dr. Wharton Sinkler, of Philadelphia; Dr. H. M. Lyman, of Chicago; *Secretary and Treasurer*—Dr. G. M. Hammond, of New York; *Councillors*—Dr. Henry Hun, of Albany; Dr. C. L. Dana, of New York.

AFTERNOON SESSION.

DR. J. H. LLOYD, of Philadelphia, read a paper entitled

A LATER HISTORY OF A CASE OF FOCAL EPILEPSY, FOR WHICH TREPHINING AND EXCISION OF THE MOTOR CENTRES WERE PERFORMED.

Full details of the case had been recorded at the last annual meeting of the Association. At that time but three months had elapsed since the operation, and Dr. Ferrier, of London, had stated in a discussion that the time was too short for a decisive result as to the usefulness of the operation. Now that more than a year had passed, further details could be given. Before the operation the patient had had many seizures daily. There was no fit for four months after the operation. Since that time, however, there had been some ten seizures in nine months.

DR. SPITZKA said there was a minority, but a powerful minority, of clinicians and physiologists who hesitated to accept the dictum that spasms were always of cortical origin when clonic in character and local in manifestation. There were well-authenticated cases of spasms, such as are generally described as cortical, which undoubtedly had their origin in the pons or medulla. He therefore thought it premature to advise surgical procedure when there was still doubt as to the position of the convulsive centre. He was of opinion that the seat of irritation in the great majority of cases of epilepsy was in lower centres, such as Nothnagel's convulsive centre.

DR. MILLS mentioned the case of a man subject to unilateral convulsions beginning in the hand. There was a scar upon the head, and trephining was done at this spot in order to relieve severe pain, probably due to trigeminal irritation in the scalp or dura. This operation relieved the pain, but caused the Jacksonian epilepsy upon the other side. The operation was repeated in the same spot, the membranes and cortex being removed to some extent, and with great success. It was an apparent illustration of the fact that convulsions may occasionally be the result of operations themselves.

DR. DERCUM had seen the same case, and stated that the dura was not opened in the first operation. At the second trephination the membranes were found united. There was a pachymeningitis. The patient had surgical epilepsy. Six months elapsed between the operations.

DR. LLOYD said it was a question whether one could have localized epilepsy from irritation of lower centres, as Dr. Spitzka had intimated. He had always held the idea that such spasms were of cortical origin. In the case he had just described the absence of fits for four months led him to believe that he had removed the parts concerned in their manifestations. He had been hopeful of the efficacy of this method in the relief of such a disorder, and was not yet willing to give up the idea that something may be accomplished in this way. He thought it would be justifiable to operate again in this same case.

DR. SPITZKA asked if the cortex removed had been examined microscopically, and what was the pathological condition found.

DR. LLOYD answered that the microscopist had reported atrophy of the cortical cells.

DR. SPITZKA remarked that atrophied cells could scarcely be very potent in the production of epilepsy.

DR. LANDON C. GRAY, of New York, then presented a paper upon

THE DIAGNOSTIC SIGNS OF MELANCHOLIA,

in which he called particular attention to the difficulty of diagnosis of simple melancholia at times. It was usually, when in mild degree, confused with neurasthenia. He had recently made a study of eighteen cases of this form, and pointed out what he considered the three cardinal symptoms, viz., depression, insomnia, and post-cervical ache. The last named he thought especially characteristic. This pain was sometimes neuralgic in character; at others, vague and continuous. Simple melancholia such

as this should not be confounded with neurasthenia, or melancholy states dependent upon hepatic or nephritic disease, or with non-typical forms of insanity.

Dr. H. S. Upson, of Cleveland, then read a paper in which he considered the relation between

MULTIPLE NEURITIS AND INFECTIOUS CEREBRO-SPINAL MENINGITIS.

Dr. Mills had first suggested the possibility of connection between the two. His own case was, briefly, as follows: A woman, aged twenty-seven, had intense pain and tenderness in the extremities, together with stupor and slight opisthotonos; no electrical examination could be made because of the extreme hyperæsthesia. She had had a multiple neuritis a year before, but recovered. The autopsy revealed congestion of the pia of brain and cord with marked serous effusion, and a microscopic examination of the ulnar nerve revealed interstitial inflammation there. In the opinion of the author, the nerve-trunk inflammation was not parenchymatous, but rather of the membranes, and was analogous to the process in the brain and cord; the nerve-fibres were secondarily involved. He had not looked for bacteria. He naturally felt interested in the case. He had had an autopsy on one of his own cases. Portions of nerves and sections of the brain and cord had been examined by Dr. Gray, of Washington, and this examination proved conclusively the association of neuritis with the cerebro-spinal meningitis.

Dr. Spitzka referred to the vacuoles in the author's sections, and said retarded lymph-outflow might be important in causing the death of tissue and the formation of gas-bubbles which these vacuoles must be considered to represent. He had noted, also, two bodies in the section larger than ordinary leucocytes, very delicately stained, which the author should have carefully delineated.

Dr. C. K. Mills, of Philadelphia, then gave an abstract of a paper by Dr. J. T. Eskridge, of Denver, on a

CASE OF ABSCESS OF THE BRAIN; OPERATION; DEATH ON THE NINTH DAY.

The patient had had typhoid fever. Two months later there was purulent inflammation of the middle ear, and not long after symptoms of brain-irritation followed, such as headache, delirium, persecutory delusions, together with paralysis of the right hand and right angle of the mouth. The skull was trephined over the face and hand centres, and a purulent inflammation was found under the dura. The wound was then dressed, and the patient died nine days later. A wide-spread suppurative meningitis was found at the autopsy. Dr. Mills thought the case of great practical value. He thought trephining should have been performed in two places, at the centre which had been properly localized and also over the mastoid region where the inflammatory process had originated.

Dr. B. Sachs, of New York, presented a paper on the

PERONEAL FORM OF PROGRESSIVE MUSCULAR ATROPHY.

The author reiterated his statement of last year that this form was closely related to Duchenne's type. He gave very full details of the cases of two brothers that had recently come under his observation through the kindness of Dr. Gibney. The boys were thirteen and ten years of age. There was a gradual development of double club-foot in both at the age of five years, followed by an atrophy proceeding upward, beginning in the leg and toe muscles and spreading to those of the thigh, in one case also involving muscles of the upper extremities. The knee-jerks were present. In one there was general anæsthesia; in the other, paræsthesia. There was full degenerative reaction in some of the muscles in one boy; partial, in the other. The progressive wasting rendered treatment of this form of club-foot less satisfactory than that of congenital cases. He would suspect this peroneal form in all cases where acquired club-foot was associated with progressive wasting of the leg muscles, and particularly if heredity or family occurrence of the disease could also be established.

Dr. Sinkler could recall several similar cases; one, in particular, of two brothers. But doubtless more would be seen if careful attention were paid to the matter.

Dr. Birdsall did not think the presence of knee-jerk so important a diagnostic point as the author seemed to regard it. He had seen a few cases of old poliomyelitis where the paralysis and atrophy were below the knee, and yet the knee-jerks were quite active on both sides. It could not therefore be an essential point in diagnosis.

Dr. Bullard had also observed the presence of the knee-jerk in old cases of poliomyelitis.

Dr. Prince asked if the author had said that the absence of pseudo-hypertrophy was a diagnostic point between this form and primary myopathies, and was answered in the affirmative. He did not consider this true.

Dr. Spitzka asked if the symmetry and the coincidence of time and intensity as shown in the photographs were always the case, and was answered in the affirmative.

Dr. Sinkler corroborated two of the speakers as to the presence of the knee-jerk in cases of old poliomyelitis, and cited an instance from his own experience

Dr. Gray objected to the division of progressive muscular atrophy into groups. Why should there be an arm type, a face type, a leg type? Such division might be carried out indefinitely. A more useful classification would be upon the pathology of the disease—a division into central, muscular, and peripheral nerve-lesions.

Dr. Sachs said he did not lay great stress upon the presence or absence of the knee-jerk. Yet in extreme atrophy of the vasti from poliomyelitis the knee-jerk was always absent; and if it were present, he should consider it a case of progressive muscular atrophy. He had himself tried to discard subdivisions as much as possible, but the present classification was a clinical necessity. A better might be made when the pathology is more accurately determined. At present there were spinal and non-spinal cases, but there was no certainty as regarded peripheral nerve cases.

Dr. Morton Prince, of Boston, then exhibited some microscopic specimens from the muscles of a case of

PSEUDO-HYPERTROPHY.

The patient was now twenty-eight years of age. The specimens showed a large quantity of connective tissue, hypertrophy of a few fibres, and great atrophy of many of the fibres. There was also great loss of striation, but no fatty or granular degenerations and no vacuolization.

The following papers were read by title: "A Series of Cases of Cerebral Hemorrhage of Unusual Interest," by Dr. J. H. Lloyd, of Philadelphia; The Histological Examination of Nerves removed for Trigeminal Neuralgia," by Dr. J. J. Putnam, of Boston; "The Pathological Anatomy of Chorea," by Dr. C. L. Dana, of New York; "Paranoia in Two Sisters," by Dr. Frederick Peterson, of New York.

The following new active members were elected: Dr. Hobart A. Hare, of Philadelphia; Dr. J. P. C. Griffith, of Philadelphia.

The meeting then adjourned.

In the evening a banquet was given by the Association at the place of meeting, the West End Hotel, at which some thirty members were present.

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A Gargle in Quinsy.—Dr. W. M. Beck, of Kensington, Kan., writes: "In your 'Medical Item' column I notice that Sajous recommends guaiac as a gargle for early stages of quinsy. Chloral hydrate has been far more efficient in my hands; in fact, nearer a specific than anything recommended in the text-books. Three or four grains to the ounce of glycerine may be used as a gargle. I mention this because no reference is made by Ringer or other therapeutists to this fact. Its efficiency and *modus operandi* are at once apparent when we consider that it is locally antiseptic, astringent, and sedative."

# Correspondence.

## PERINEAL LACERATIONS.

To the Editor of The Medical Record.

Sir: I desire to call attention to some points considered by Dr. James K. King, in a paper entitled "Surgical Treatment for Lacerations of Perineum, with some Important Modifications," which appeared in The Medical Record of June 1st.

The paper would be a most valuable contribution were lacerations of the posterior vaginal wall limited to the median line, and were the wound resulting from his operation, which contains three rows of stitches, tolerably sure of uniting; but the contrary is usually true.

In studying the continuous support of the posterior vaginal wall, it is unphysiological to attribute any of this action to its muscles; then, as a consequence, connective tissue alone remains to be considered.

The connective tissue is liberally attached to the bony portion of the true pelvis, and is abundantly distributed through the posterior vaginal wall. The tissue becomes soft and yielding at parturition, and normally stretches at this time, without separation, so as to permit passage of the fœtal head. The head is moulded to the bony canal in its passage, which demonstrates that the connective tissue, during labor, is normally capable of stretching to the dimensions of the canal. Then when the posterior vaginal wall separates during labor, it is due to one or more of the three following causes: 1. Diseased connective tissue; 2, too great force brought to bear upon the posterior vaginal wall before its connective tissue is sufficiently softened; 3, scraping or tearing of the connective tissue from its attachment by passage of the fœtal head.

Cicatricial contraction is the disease most apt to affect the connective tissue. This must be a rare complication to labor, and can very seldom obtain in primiparæ.

Laceration of the posterior vaginal wall in rapid labor is caused by the exertion of too great force upon the connective tissue before it becomes softened. Scraping and grinding of the connective tissue of the posterior vaginal wall from its attachment have not before been recognized as a cause of the so-called "laceration of the perineum." Strong evidence exists, however, that this is true. The connective tissue attached to that portion of the ischium around and including the spine is the portion most subject to this grinding between the fœtal head and the bony canal. This is the location of many tears described under the heading of lateral lacerations. This location of laceration occurs usually in difficult and protracted labors, and in patients in whom the mobility of the pelvic bones has been diminished by age or disease; while in women before this has taken place, the laceration is more often median, occasionally including the sphincter ani, and seldom accompanied by any lateral separation.

Lacerations of the posterior vaginal wall are conveniently divided into the four following varieties: 1, Bilateral; 2, unilateral; 3, median; 4, mixed.

In the bilateral variety the fourchette, perineal body, and medio-recto-vaginal septum retain their normal dimensions; yet this laceration causes most suffering from lack of support. The vagina is relaxed; the portion of ischium around and including the spine apparently remains covered by periosteum and vaginal mucous membrane only. Rectocele exists as a result of the detachment of the ends of the connective-tissue band, as it were, which stretches across the pelvis in front and surrounds the rectum. The rectocele is obscured from view by the perineal body, but want of support to the rectal wall is felt by the patient while at stool, and recognized by digital examination when the abdominal muscles are contracted. The transverse perineal muscles, being separated from their attachment to the ischium, fail to perform their function of assisting in counteracting the increased pressure upon the anterior rectal wall during defecation, and thus allow this connective-tissue band to relax and double upon itself as the rectocele forms. Let it not be understood that the ends of the separated fibres remain free, for an adhesive inflammation takes place soon after labor, forming a weak attachment at a variable distance from their original location.

Cases are occasionally seen where the tear is nearly, if not entirely, limited to one side; all the physical signs are the same on one side in the unilateral as in the bilateral variety. To produce this, the laceration of tissue must be at or near the point of attachment, where the tissue easily becomes engaged between the ischium and fœtal head in its rotatory passage. This lesion strengthens the evidence in favor of this origin of laceration.

Median lacerations involve principally the vaginal outlet and occasionally extend through the sphincter ani. When the tear is extensive, the labor producing it must have been either rapid or instrumental. In rapid labors the fœtal head does not become firmly engaged in the bony canal. As a natural consequence, the fœtal head does not grind the tissues against the ischii in its rotatory passage, and, as would naturally be expected, the tissues remain uninjured at this point. The different varieties often exist mixed, one predominating.

Dr. King still continues to make the great error of attributing much of the uterine support to the perineal body. This function its anatomy and clinical history emphatically contradict.

While interne in the New York State Woman's Hospital I had the opportunity of observing in a large number of cases the effects of lacerations of the vaginal outlet, often including the sphincter ani, and also cases in which incisions had been carried down to the rectal wall; yet in none of these did any appreciable want of support exist.

The following case well illustrates the non-support of the perineal body: Miss W——, a number of years before being admitted to Dr. Bozeman's service in the New York State Woman's Hospital, had a cystotomy performed for the relief of chronic cystitis. The vaginal outlet preventing free escape of urine, it was incised down to the rectal wall; as this gave no relief an incision was made on each side of the rectum, exposing fully three-fourths of its surface. She had been in this condition either three or five years, as I recollect, before entering the hospital, yet no want of support existed, and she had been able to be up and around nearly the whole time.

Another strong clinical fact in oppostion to the old theory of the support of the perineal body can best be given in Dr. Emmet's [1] words: "We can realize that this is not true from the statement of any woman who is suffering from an extensive cellulitis, for she is unable to take a single step without feeling the force transmitted directly through the solid and inelastic tissue, which should aid in giving the most perfect support from below, if the perineum could exercise such a function." And as to the absurdity of such a belief, he says: [2] "It would be as rational to assume that a man's pantaloons were supported by the legs resting on the instep or foot."

But the posterior vaginal wall assists in the support of the anterior vaginal wall, which is a strong factor in determining the position of the uterus. When the length of the anterior vaginal wall is normal, the cervix is held so near the sacrum that it is difficult for the uterus to become seriously retroposed.

The anterior vaginal wall has other support besides the posterior vaginal wall, for cystocele never forms when the perineum is incised down to the rectal wall; and seldom, if ever, after deep median lacerations of the posterior vaginal wall. My impression is that cystocele, as a result of labor, is usually, if not uniformly, associated with lateral lacerations of the posterior vaginal wall; that is, the lateral laceration and the cystocele have a common cause.

[1] Principles and Practice of Gynecology, p. 365. [2] Ibid.

Both usually occur after difficult and protracted labor; or after the mobility of the pelvis has been diminished by age.

The anterior vaginal wall has its support from a band-like formation of connective tissue which stretches across the pelvis, and cystocele usually forms as a result of laceration of this tissue. This laceration may occur under the same conditions, in the same manner, and at the same time as does lateral laceration of the posterior vaginal wall.

A movable retroposed uterus, resulting from laceration of the posterior and, probably, of the anterior vaginal wall, seldom retains its normal position after the usual operations have been performed upon both of the vaginal walls, without the use of a pessary. This fact is entirely consistent with the fact that the anterior vaginal wall has support from connective tissue as described, and that cystocele is usually the result of leceration of this tissue. The more the connective-tissue support of the anterior vaginal wall is weakened, the more is the support of the posterior vaginal wall needed.

The direction of stitches as Dr. King describes it is the most rational for use in median lacerations only; and, were the resulting wound tolerably sure of uniting, it would be a most admirable operation in tears at the vaginal outlet. But why take the greater risk of union by first intention, and do the extra work, when the vaginal outlet can be as well built up with one line of sutures?

Dr. King's operation in lateral lacerations seems to me useless, as he apparently does not consider the folly of uniting and rolling up tissue never torn. One who has utterly failed to appreciate the teaching of Emmet would be likely to agree with Dr. King.

Emmet's operation does not fix the separated ends of connective tissue and muscles in their natural location, but practically accomplishes the same result by strengthening the union formed soon after labor, and by taking up the slack tissue.

Dr. King gives the following objections to Emmet's operation: 1. Stitches are passed transversely to important perineal vessels, causing swelling and pain. 2. Stitches passed in this manner draw down the posterior vaginal wall, "followed by the uterus," causing increase of the rectocele.

Dr. King evidently is not aware that the stitches in the lateral triangles in Emmet's operation are passed in a line curved downward and backward (in practically the same direction as Dr. King's "first stitch"), the last of which extend nearly to the skin, drawing the posterior vaginal wall forward and inward. This is the direction of the greater number of stitches used by Dr. Emmet in his operation on the vaginal outlet, as practised by him in the New York State Woman's Hospital, but not clearly stated in his "Principles and Practice of Gynecology."

That the procedure causes swelling is the best recommendation for the operation, as it demonstrates that it has a curative action upon the diseased blood-vessels which cause the "bearing-down pains." The abundant collateral circulation of the posterior vaginal wall prevents any danger from too great obstruction in the circulation, and the swelling does not interfere with union.

In none of a large number of these operations observed in the New York State Woman's Hospital can I recall the presence of sufficient pain to demand an anodyne. There is little cause for pain, since none of the sutures include the skin in ordinary cases.

Dr. King's ojection to the result of Emmet's operation, namely, the drawing down of the posterior vaginal wall, may be explained by his failure to appreciate the direction of the sutures, unless he attributes this action to the crown-stitch; but, as the point of support is above, the resultant traction elevates instead of depressing the posterior vaginal wall.

Dr. King's error, of attributing to Emmet's operation a drawing down of the uterus, is consequent upon his non-recognition of its true support.

Rectocele from lateral laceration cannot be increased by Emmet's operation on the vaginal outlet, except in the imagination of a misguided critic.

I doubt whether Dr. King's operation will cure any case of rectocele, as it is not clear that median lacerations cause rectocele. I cannot recall a rectocele from laceration at the vaginal outlet, and do not see how it could occur. The connective-tissue band, briefly described above, crosses in front of and surrounds the rectum. This band is not so tense as to make its rupture in the centre probable; and, if it did, would not the tissue surrounding the rectum prevent a rectocele? And if the rectum does not receive strong support from the sides and posterior surface, what supports it when the anterior wall tears for some distance above the sphincter ani, from within outward, as Emmet[1] describes?

Dr. E. C. Dudley does a modified Emmet's operation, which seems to be an improvement. He uses silkworm gut for sutures, which possesses all the advantages of the silver suture, and, in addition, is more easily applied and removed, and he has found that they may remain longer without producing suppuration.

Dr. Dudley introduces the first suture in the lateral triangles, after Emmet; ties it, and makes traction upon it upward and inward in the direction of the sulcus, while the next suture is being introduced and tied. The second and each succeeding suture are introduced under the same conditions; *i.e.*, while a suture is being introduced and tied, the one just before it is being firmly drawn upward and inward in the direction of the sulcus by means of a pair of Pean's forceps.

After all the sutures have been placed in the two sulci, the crown-suture is now introduced deeply through the lowest myrtiform caruncle on the patient's left, underneath the upper portion of the remaining denuded surface on the posterior vaginal wall, and is brought out through the opposite myrtiform caruncle. This suture, when tied, restores the annular hymen, unless the remains of that organ have been obliterated. The remaining sutures close the more external part of the wound, and make a median line of union out over the posterior commissure of the vulva toward the cutaneous portion of the perineum, and this union may reach nearly or quite to the anus. These last sutures, external to the remains of the hymen, should be introduced with the same method of traction used in the sulci, the traction being toward the meatus urinarius.

Dr. Dudley informs me that he has performed this operation in more than one hundred cases, and in no case has the posterior vaginal wall failed to come well up under the pubes. This failure, however, will sometimes occur when the sutures are introduced without this method of traction.

T. J. WATKINS, M.D.

1355 WABASH AVENUE, CHICAGO, June 18, 1889.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 20, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 23 | 5 |
| Scarlet fever | 45 | 7 |
| Cerebro-spinal meningitis | 3 | 8 |
| Measles | 60 | 4 |
| Diphtheria | 81 | 20 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

ANY CURE FOR STAMMERING?—A "Constant Reader" writes: "Will you kindly let me know through the columns of THE MEDICAL RECORD what means are used at present to cure stammering?"

[1] Principles and Practice of Gynecology, p. 394.

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## Original Articles.

### THE RELATIVE GERMICIDAL VALUE OF THE SO-CALLED ANTISEPTICS.

BY JOHN E. WEEKS, M.D.,

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IN a recent address made by a very prominent surgeon of this city, the statement was made that "we cannot to-day formulate a list of germicidal remedies as we thought we could five years ago." This is in part true; however, the investigations that are being made in this line are gradually bringing order out of chaos, and we are nearing a stage where the germicidal effects of remedial agencies will be definitely known. The object of this paper is to submit the results of investigations made to this end, and to render more complete a list of germicidal remedies submitted by the author, in a paper which appeared in the *Arch. of Oph.*, vol. xvi., No. 4, p. 375. The experiments (conducted for the most part in the laboratory of the New York Ophthalmic and Aural Institute) from which the conclusions following were drawn, were made with pure cultivations of pathogenic germs, and correspond very closely with what is known clinically of the effects of the remedies experimented with.

In the present stage of our knowledge, it is not necessary to urge the causative relation of bacteria to disease, to advance proof that the staphylococcus pyogenes is the essential factor in the production of a large portion of the suppurative processes, or that a certain bacillus is the active agent in the production of typhus abdominalis. These points have already been established by the able work of Ogston, Rosenbach, Koch, Eberth, Gaffky, and many others.

As our knowledge of the actual value of remedial agencies advances, it becomes more and more apparent that the agents that are of most value—I might say, that are of any value—in the treatment of infectious or contagious diseases, are those which, first, act directly on the pathogenic germ to impair its vitality; second, those which convert the pabulum on which the germ feeds into a condition which prohibits its development; third, those remedies that stimulate the general system and increase the antagonistic, or phagocytic power of the animal cells. To the first belong the germicides, to the second the germicides and antiseptics, and to the third, tonic remedies, either local or general, suitable alimentation, etc.

The line of investigation here reported is that of the effect of certain remedial agencies on the vitality of germs. It is an evident fact that any remedy, to be effective as a germicide, must be brought in contact with the germ in sufficient concentration, and for a sufficient length of time, to produce its germicidal action, and it is very desirable to know the time and concentration required by the various remedies. This knowledge is of great importance to the general practitioner, but is of greater value to the surgeon, and is quite different from the knowledge of the proportion of a germicidal remedy, contained in a substance suitable for the growth of germs, required to prevent their development. Remedies that prevent the growth of germs are not necessarily germicidal, as instance boric acid and desiccating powders; and although capable of retaining an aseptic condition in substances already free from germs, are of no value as disinfectants, and will not prevent the further development of the germs if their inhibitory presence is removed within the time of the natural life of the germ. For the purposes of surgical practice, in cases where the condition requiring operative interference has no connection with bacteria, simple aseptic solutions for the removal of blood, etc., the condition embraced under the general term of cleanliness is all that is indicated, and will in almost all cases produce good results; but in cases where the operator must deal with germ-infected tissue, a germ-destroying agent must be used to insure the best conditions for recovery.

The germs employed for making these investigations were the staphylococcus pyogenes aureus and the typhoid bacillus, and the results arrived at with these germs are applicable within very narrow limits to all pathogenic germs, if the spores (formed only by a limited number of bacilli) are not considered, as shown by the experiments of Koch, Sattler, Sternberg, and others. The staphylococcus pyogenes aureus was obtained by cultivations made from abscesses and eczema pustules, and their virulence tested by inoculations of the eyes of rabbits; the typhoid bacillus from cultivations at the Hoagland Laboratory. The methods employed for testing the various remedies were as follows: For liquids, an emulsion of a pure cultivation of the germ was made in sterilized water, into which sterilized platinum rods were dipped and immediately transferred to a solution of the remedy to be tested. After remaining in this solution for a certain length of time, sterilized nutrient agar, contained in test-tubes, was inoculated with the rods, the tubes placed in an incubator at a temperature of 37° C., and the effect of the solution on the vitality of the germs determined by their development or non-development. Powders and ointments were tested by intimately mixing a quantity of the germs with the powder or ointment, and after the desired time had elapsed, transferring a very small part of the mass to the sterilized food medium. The method employed by Koch, Sattler, and others, of immersing sterilized pieces of silk thread in an emulsion of the germs, transferring them to the liquids, powders, etc., to be tested, and then introducing them to the food medium, was only used in a few instances where the exposure was for a long time. In cases where the exposure is for a fraction of a minute, this method is faulty, since it requires an appreciable time for the remedy to reach the interior of the thread. Straight rods were employed, in order that the germs exposed should come in contact with the substance experimented with immediately.

Substances the names of which are marked with an asterisk (*) were experimented with two years ago, and the results reported in the *Arch. of Ophthal.*, vol. xvi., No. 4, 1887. The staphylococcus pyogenes aureus only was used in the first experiments. The staphylococcus pyogenes and the typhoid bacillus were used in the subsequent experiments.

*Bichloride of mercury. When a solution of the bichloride of mercury in distilled water is made, a precipitate forms on standing—usually of the mild chloride. This may be obviated by adding a small amount of sodium or ammonium chloride to the solution.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 to | 500 | destroys | vitality | in | exposures of | 10 seconds. |
| 1 to | 1,000 | " | " | " | " | 45 " |
| 1 to | 2,000 | " | " | " | " | 1½ minute. |
| 1 to | 4,000 | " | " | " | " | 2½ minutes. |

1 to 5,000 destroys vitality in exposures of 3 minutes.
1 to 10,000 " " " " " 5 "
1 to 20,000 " " " " " 12 to 15 minutes.

*Bisulphate of mercury. Soluble in about 1 to 7,000 of cold water (U. S. D.). 1 to 8,000 destroys vitality in exposures of four minutes. Very slightly irritating to mucous membranes.

*Biniodide of mercury. Solubility in water 1 to 40,000 (?). Saturated watery solutions destroy vitality in exposures of four days.

*Bromide of mercury. The saturated solution in water (very sparingly soluble) destroys the vitality of the staphylococcus in exposures of some days.

*Iodide of mercury (green iodide), not soluble in water.

*Yellow oxide of mercury. A saturated solution in water (very sparingly soluble) destroys vitality in exposures of two to four days.

*Red oxide of mercury corresponds with the yellow oxide in its antiseptic and germicidal properties.

Oxycyanide of mercury, highly extolled by Dr. Chibret (Soc. de Biol., Paris, 1888, p. 585) as a germicide, and placed by him about on a par with the bichloride, makes a very poor showing in my hands. It is quite readily soluble in water; 1 to 100 requires ten minutes' exposure to destroy the typhoid bacillus, and twenty to thirty minutes to destroy the vitality of the staphylococcus aureus.

* "The mild chloride of mercury is not soluble in water; however, when mixed with water in the proportion of 1 to 500, the ordinary preparations are germicidal to a low degree." No bichloride could be detected on testing this mixture.

*Nitrate of silver. In this salt we have an excellent germicide, the value of which does not appear to be recognized by the profession. Aside from the work by Ratincoff and Miquel, who determined that in the proportion of 1 to 10,000 it arrested putrefactive processes, little has been done with the nitrate of silver in an experimental way. We may assign this salt to a position near the head of the list of germicidal remedies, as the following shows:

1 to 10 destroys vitality in exposures of 4 seconds.
1 to 50 " " " " " 8 "
1 to 100 " " " " " 12 "
1 to 500 " " " " " 1½ minute.
1 to 1,000 " " " " " 4 minutes.

These experiments explain its great efficacy in the treatment of eczema, purulent affections of the eye, otorrhœa, etc.

Iodide of silver. Very slightly soluble in water. A saturated watery solution destroys the vitality of the staph. pyog. and the typhoid bacillus in exposures of ten minutes.

*Permanganate of potash. Readily soluble.

1 to 50 destroys vitality in exposures of 20 seconds.
1 to 100 " " " " " 1 minute.
1 to 200 " " " " " 5 minutes.
1 to 500 " " " " " 20 "

Not a very stable preparation.

*Potassium hydrate, 1 to 5, destroys vitality in exposures of five minutes.

Creasote from the distillation of birch-wood (Merck) is a very active germicide, and probably owes its good repute in the treatment of tuberculosis, chronic bronchitis, zymotic intestinal troubles, etc., to this property. The pure creasote requires an exposure of less than ten seconds to destroy the vitality of the staph. pyog. aur. and the typhoid bacillus. It dissolves in water in the proportion of about 1 to 250, and in this solution destroys vitality in exposures of thirty seconds.

1 to 400 destroys vitality in exposures of 5 minutes.
1 to 800 " " " " " 10 "
1 to 1,000 " " " " " 30 to 40 minutes.

The saturated watery solution is but slightly irritating to mucous membranes.

Creolin. Much has been written in praise of the antiseptic value of this product, from coal tar. The results of experiments here given show it to be inferior to carbolic acid.

Pure. Vitality destroyed in exposures of less than 10 seconds.
1 to 10 " " " " " 1 minute.
1 to 20 " " " " " 3 to 5 minutes.
1 to 40 " " " " " 10 minntes.
1 to 100 " " " " " 20 to 30 minutes.

Trichlor. phenol. Chief product of the action of chlorine on phenol; insoluble in water, soluble in oils and ether.

Five per cent. solution in olive-oil, exposure of four hours, failed to destroy the vitality of the staph. pyog. and typhoid bacillus.

1 to 10 in ether, destroys vitality in exposures of 10 seconds.
1 to 20 " " " " " 20 "
1 to 100 " " " " " 5 minutes.

Naphthalin. Obtained by distillation from coal tar; not soluble in water, but soluble in oil and ether.

Five per cent. solution in olive-oil failed to destroy the vitality of germs in exposures of four hours. Solutions in ether.

10 per cent. destroys vitality in exposures of 3 minutes.
5 " " " " " " 8 to 10 minutes.

Oxynaphthoic acid. Also derived from coal tar. It is the counterpart among the naphthaline derivatives of salicylic acid, which is found among the benzole derivatives, and it is said to be a more powerful germicide than salicylic acid.

Dissolves in 1 to 30,000 of water; soluble in ether; saturated watery solution is effective in exposures of forty minutes. Four per cent. in ether about the extent of solubility; four minutes.

*Carbolic acid.
1 to 20 destroys vitality in exposures of ¼ minute.
1 to 40 " " " " " ½ to 1 minute.
1 to 60 " " " " " 4 minutes.

Aseptol (orthophenosulphonic acid) readily soluble in water.

33⅓ per cent. solution destroys vitality in exposures of 30 seconds.
1 to 12 " " " " " 3 minutes.
1 to 100 " " " " " 4 hours.

Thallin (methyloxybenzol). Derived from phenol; 1 to 10 solution in water destroys vitality in exposures of three hours.

Terebene. Derived by the action of sulphuric acid on turpentine. Pure, it requires fifteen minutes to destroy the vitality of germs.

"Sanitas," a product obtained by the passage of oxygen through turpentine in the presence of water, is used largely by the profession in England, and in quite a large number of hospitals in this country. It is found on the market in the form of oils, a disinfecting fluid, and some other preparations. Although, according to Jewett (*Medical Register*, Philadelphia, 1888, iii., 152), it is a complex body, it probably owes its germicidal properties to the presence of the peroxide of hydrogen which it contains. It is non-poisonous and but slightly irritating to the tissues.

Oil No. 1, destroying vitality in exposures of 20 seconds.
" crude,[1] " " " " " 1½ minute.
Disinfecting fluid, " " " " " 4 "
" " fifty per cent., in " " 10 "

*Alcohol. "Koch's conclusions that absolute alcohol has little effect on dried germs is confirmed by Sattler and others; on moist germs, however, the facts are quite different."

Absolute alcohol destroys vitality in exposures of 4 to 12 seconds.
90 per cent. " " " " " 20 to 30 "
66 " " " " " " 10 to 15 minutes.

*Salicylic acid. Dissolves in water in the proportion of 1 to 600; ranks high in the list of antiseptics.

1 to 700 destroys vitality in exposures of 1 minute.
1 to 1,000 " " " " " 4 to 5 minutes.

*Salicylate of soda, in solution of 1 to 10, destroys vitality in exposures of eight to ten minutes.

[1] Not used in medicine. In coarse disinfection.

Salol. Not soluble in water, soluble in ether.

1 to 10 in ether, destroys vitality in exposures of 15 minutes.
1 to 20 " " " " " " " 35 "

*Chlorine water. Distilled water saturated with chlorine gas is placed by Sattler at the head of the list of germicidal remedies. It is certainly an excellent germicide, causing but little irritation of the tissues with which it comes in contact. Unless kept tightly corked, and in a cool, dark place, the solution rapidy loses its germicidal value by escape of the chlorine gas that it contains. Fresh preparations destroy the vitality of germs in exposures of one to one and half minute.

Chloride of lime, one of our best germicides, but not very stable—destroys colors, metals, etc.

1 to 100 destroys vitality in exposures of 4 to 8 seconds.
1 to 200 " " " " " 10 "
1 to 500 " " " " " 30 "
1 to 1,000 " " " " " 1 to 2 minutes.

Chlorinated soda (Labarraque's solution) corresponds very closely to the chloride of lime in regard to its stability and the actio.1 on colors, metals, etc.

The fresh solution destroys vitality in exposures of 4 seconds.
1 to 2 " " " " " " 8 "
1 to 10 " " " " " " ¾ minute.

*Hydrogen dioxide ($H_2O_2$). "Commences to decompose at a temperature of 60° F., giving off oxygen and being converted into water." Prepared under a pressure of two atmospheres and at a low temperature, the fresh preparation destroys the vitality of germs in exposures of one minute. When loosely corked, it loses its germicidal value quickly. "It should be kept on ice and tightly corked."

Bete naphthol disolved in ether.

1 to 10 destroys vitality in exposures of 30 seconds.
1 to 20 " " " " " 1 to 2 minutes.

Ichthyol (sulph. ichthyolate of sodium, or of ammonium, according to the alkali used) is soluble in water. It is said to be of great value in eczema, furunculosis, erysipelas, arthritic rheumatism, etc. Its remedial value is probably largely due to its germicidal properties. It destroys the vitality of the staphylococcus pyogenes and typhoid bacillus in exposures of three to four minutes.

*Sulphuric acid, 1 to 10, destroys vitality in exposures of three-fourths to one minute.

Listerine. Mentioned because of its rather extensive use by the profession as an antiseptic.

Undiluted destroys vitality in exposures of 1 minute.
1 to 2 " " " " " 8 minutes.

Chloride of iron.

1 to 10 destroys vitality in exposures of 3 minutes.
1 to 20 " " " " " 5 to 7 minutes.

Liquor of the chloride of iron.

1 to 20 destroys vitality in exposures of 3 minutes.
1 to 100 " " " " " 30 "

Tincture of the chloride of iron.

Undiluted destroys vitality in exposures of 10 seconds.
1 to 50 " " " " " 5 to 7 minutes.
1 to 100 " " " " " 15 minutes.

The acidity of the two last-mentioned preparations adds to their germicidal value.

Balsam of Peru requires an exposure of three minutes to destroy the vitality of the staphylococcus pyogenes. Its efficacy when used to dress suppurating surfaces is very probably due largely to its germicidal properties.

Iodoform and ether. Iodoform dissolved in ether, 1 to 10, destroys vitality in exposures of five to seven minutes.

*Boric acid. The staphylococcus pyogenes retained their vitality when mixed with a saturated solution of boric acid and allowed to remain ten days. Sternberg claims that in the proportion of 1 to 400 boric acid prevents the development of germs. It certainly does not destroy their vitality, therefore is useless as a germicide.

*Strong's water of ammonium. No effect in exposures of ten minutes.

*Potassic sulphate of alum. No effect in exposures of two hours.

Solutions of the substances mentioned below have no effect on the vitality of the staphylococcus pyogenes in exposures of twenty-four hours. Solutions in water unless otherwise stated.

*Arsenious acid, sparingly soluble; *Bicarb. of soda solution, 1 to 13; *Bromide of potash solution, 1 to 10; *Chloral hydrate, 1 to 50; *Castile soap, 1 to 50; *Common laundry soap, 1 to 50; *Camphor water; *Carbonate of ammonium, 1 to 5; *Chloroform; *Ether, sulphuric; Glycerine; *Bicarbonate of potassium, 1 to 20; *Chlorate of potassium, 1 to 16; *Iodide of potassium, 1 to 10; *Chloride of sodium, 1 to 3; *Bicarbonate of sodium, 1 to 16; Hyposulphite of sodium, 1 to 5; *Sulphate of iron, 1 to 5; *Sulphate of copper, 1 to 5; Tannic acid, 1 to 10; Tar water (Infus. picis liq.); *Acetate of zinc, 1 to 10; *Sulphate of zinc, 1 to 10; *Chlorate of zinc, 1 to 20.

*Oils.*—The oil of eucalyptus globulus destroys the vitality of germs in exposures of one to one and a half minute; *Oil of cade, five minutes; Oil of thyme, eight to ten minutes.

Exposures of twenty-four hours do not suffice to destroy the vitality of the staphylococcus pyogenes with the oils mentioned below:

*Oil of cloves, *oil of turpentine, oil of santal, crude petroleum, *thymol, pure and in watery solution; *benzole.

*Ointments.*—The following ointments produce no effect on germs, in a watery menstruum, although mixed with the ointments and left so exposed for thirty-six hours:

*Mercurial ointment (officinal), *ointment of the yellow oxide of mercury, one and a half per cent.; *ointment of the benzoate of mercury, one and a half per cent.; *ointment of iodoform, ten per cent.; *ointment of iodol, ten per cent.

This is in accord with the experiments made by Koch and others. It is possible that the effect produced on germs, on the skin and in the tissues, may be different. Germicidal remedies combined with oils and fats are probably less effective when combined with germs in a watery menstruum, because of the difficulty of inducing *immediate* contact.

*Powders.*—In nearly all cases an intimate mixture of the germs with the powders was made and cultivations taken from these mixtures.

*Calomel destroys vitality in exposures of three minutes; *resorcin, eight to twelve hours; *bete naphthol, eight to twelve hours. *Iodoform retards development after twelve hours' exposure. *Iodol and the following have no effect in exposures of thirty-six hours: *Chrysophanic acid, subiodide of bismuth, *subnitrate of bismuth, *boric acid.

*Thermal.*—*Boiling water destroys the vitality of mature germs on contact.

Leaving out of consideration remedies that are not germicidal in exposures of twelve hours, we have the following-named effective germicides, ranged in the order of their value:

Bichloride of mercury, chloride of lime (fresh), chlorinated soda (fresh), chlorine water (saturated), nitrate of silver, salicylic acid, creasote from birch-wood (Merck), alcohol (absolute), carbolic acid, "Sanitas" oil No. 1, "Sanitas" crude, potassium permanganate, bisulphate of mercury, "Sanitas" disinfecting fluid, creolin, trichlor. phenol (in ether), hydrogen dioxide, aseptol, listerine, oil eucalyptus globulus, iodoform and ether, balsam of Peru, oil of thyme, chloride of iron, tincture chloride of iron, liquor chloride of iron, iodide of silver, naphthalin in ether, oxynaphthoic acid, ichthyol, oil of cade, biniodide of mercury, oxycyanide of mercury, yellow oxide of mer-

cury, red oxide of mercury, bromide of mercury, resorcin, bete naphthol, potassium hydrate, thallin, terebene, iodoform.

It is thus seen that our list of effective germicidal remedies is relatively large, and is, I think, sufficiently complete.

43 West Eighteenth Street.

## CONCERNING SOME UNUSUAL ERUPTIONS.

By CHARLES W. ALLEN, M.D.,

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In practice one is apt to encounter interesting and instructive cases, and to make observations on the results of treatment which, though perhaps worthy of record, are not of sufficient scientific importance to warrant consideration in separate articles.

In the following notes I will endeavor to give some impressions recently gathered from practice:

*Scarlatiniform Erythema.*—This is an interesting and not fully appreciated or understood condition, of which one now and then sees instances. It may occur under a variety of conditions, and be limited to a single attack or appear as a recurrent affection. The resemblance which the eruption bears to that of scarlatina is striking, and the subsequent desquamation makes it still more resemble the latter disease. Though in many cases this peculiar erythema is due to the ingestion of drugs, in other instances this cause cannot be assigned. It not unfrequently follows surgical operations, and may in some cases be due to septic poisoning or pyæmia. The following case has recently been under my care: Mr. G—— complained on March 9th of intense headache, fever, chilly sensations, and coryza, and the tongue was thickly coated. A drachm of antipyrin was given in four doses. The next day the headache had entirely disappeared and the patient felt well; but two days later a bright scarlet eruption appeared over the back of the neck, in the bends of the elbows, and to a limited degree upon the sides of the trunk. Temperature, 102° F. Headache severe. Antipyrin, gr. xv., was ordered to be given every four hours. On the following day the scarlatina-like eruption was more intense, and an erysipelas of the face first showed itself, beginning upon the nose and extending by the 15th to the whole face and ears, and by the 20th to the lateral surfaces of the scalp. The erysipelas ran through a regular course, creeping from one region to another, leaving crusts where the bullæ had been most noticeable upon the cheeks and about the eyes, and being followed by extensive falling off of the hair and beard.

The scarlet-like rash became confluent upon the back of the neck, sides of chest, across the lumbar region, and over the lower part of the abdomen and in the popliteal spaces. Upon the arms it was almost wholly confined to the flexor surfaces, and was but sparsely scattered over the legs, backs of feet, hands, and chest. It had nowhere an erysipelatous appearance, was not at all glazed, and no sign of vesiculation existed anywhere excepting upon the face.

Upon the chest, just in front of the axillæ, and upon the back and sides of the trunk there occurred a noticeable mottling or measle-like eruption of bluish macules, and just in front of the axillary fold there were purplish hemorrhagic spots, from which the color disappeared on pressure. These persisted after the erythema had disappeared, and in the subsequent desquamation, which was not completed before April 10th, these macules, which had taken on a faint brownish color resembling a fading macular syphilide, were the last to lose their epidermis. In some respects, especially in this subsequent measle-like eruption, the case resembled one of antipyrine eruption of the whole body which I saw two years ago.

Just how much the drug had to do with it, and what part the erysipelas played in the process, I am unable to say. That it was not scarlatina, though at first very closely resembling it, I am sure. Five children, none of whom had ever had scarlet fever were in the room much of the time, and some of them would surely have contracted it from what would have been a severe attack if the case had been one of scarlatina. Furthermore, the tongue and throat presented the appearances found in erysipelas, and not those of scarlet fever, and the rash persisted after the eighth day.

*Pityriasis Maculata et Circinata.*—This disease, to which Gibert gave the name "Pityriasis Rosé," has not been so frequently described in this country that a few words will be amiss. Possibly we may find here, as they have found in France, that instances multiply as the condition becomes better known and does not continue to be confounded with eczema, psoriasis, tricophytosis, and syphilis. The small, rosy, erythematous spots, covered with fine scales, increasing at the periphery while the centre clears up, just as in ringworm, forming irregular patches and circles, characterize this disease, which affects primarily the upper regions of the chest for the most part, but is capable of extending to the arms and thighs, and may, in fact, occur on any region of the trunk or extremities. The affection runs a cyclic course, and ends in recovery after a few weeks or months. It may recur, as instanced in one patient whom I have treated for the affection, no less than four times in as many years. The first attack was in 1884, when the trunk was covered with irregular patches and more or less complete circles. Sulphur baths produced an irritant effect and appeared to aggravate the condition. The second attack was in December, 1885; the third in January, 1887; and the fourth in January, 1889, which had disappeared by the first of February under applications of naphthol. None of the subsequent attacks were as severe as the first.

Mr. V——, twenty-one years of age, came under my observation on December 13, 1888. He had an acute eruption of circular itching spots covered with fine dry scales upon the upper portion of the chest, especially above and below the clavicle, while upon the back the lesions took the form of circles and segments of circles, with a smooth centre, which, however, also became scaly on scraping. Though resembling a seborrhœal eczema in a degree, the location, irregularity of form, dryness of the scale, etc., served to distinguish it from this affection. By January 1st the spots had all disappeared, under sulphur baths and applications of an ointment containing sulphur, zinc oxide, and carbolic acid. Up to the present date there has been no return.

*Molluscum Contagiosum.*—Many authorities persist in teaching that this affection is not contagious. I have recently had several cases of this soft, wart-like growth, occurring upon the face and elsewhere in children, which strengthen my opinion, as expressed in an article in the *Cutaneous Journal*, of August, 1886, that it is undoubtedly of a contagious nature. In December of last year I was asked to see a boy, four years of age, who had "a large sore under his eye and a number of warts upon the face." The history given was that three months previously the mother had been a nurse in a children's asylum in this city, where the child lived with her. One of the inmates, a little girl, had "warts" upon her face, and the mother cautioned her boy not to play with this child, as he "might catch them." Despite this warning, the young people were frequently found together, as is often the case in true love, and one day they were discovered kissing. After this the mother always said to her son: "Now you will get the warts." And he did. Before they left the institution, two months previous to my seeing the patient, the mollusca had begun to appear. The first one noticed was that under the eye, which had now become much inflamed and ulcerated, and measured at least a centimetre in its long diameter. Beneath this, and extending toward the nose, were four smaller tumors; two were on the lower lid, one upon the upper, one at the outer canthus of the

eye, one upon the ear, and one upon the chin. All were upon the same side of the face as the original lesion, and had appeared at varying intervals, but mostly since the large mollusc began to suppurate. The lesion which had last appeared was upon the opposite brow. The growths were all removed at one sitting by scraping out with Vidal's sharp scoop. A second operation became necessary upon the large tumor beneath the eye, which began to grow again, but after the stick of nitrate of silver was applied to the bleeding base it was permanently cured. No scars resulted, and no reappearance of the affection took place.

I visited the institution to find and examine the girl in question. She had left, but I was permitted to visit the wards with the house-physician, and discovered six patients with small molluscum tumors upon the face. The house-physician told me that when he had entered the institution only one child had shown these growths, that the others had since developed, and that he had not looked upon them as contagious, and had instituted no treatment. Another instance pointing to contagion was seen on April 22d of this year.

M. J——, aged ten years, presented herself with sixteen mollusca upon the face. One inflamed and suppurating nodule upon the chin, the size of a white bean, was recognized as the original lesion, and the story told was that, three months before, the patient sat in school next to a girl whose face was covered with similar "warts." The girl had been dismissed from school on this account, and I could not trace her. Shortly after this the first mollusc appeared upon our patient's chin, and the rest are of recent growth. One by the side of the nose had become horny at the summit, elongated, narrow, and presented much the appearance of the filiform wart occasionally seen upon the eyelids. A little girl, of about the same age, who accompanied this patient, and who lived in the same house with her, had, in fact, one of those filiform warts growing from the under eyelid, which was half a centimetre long, as big round as a pin, and very horny at the free extremity. The base looked much like the molluscum when cut out. It is possible that the filiform wart occasionally originates in a small molluscum tumor. When excised and examined the papillæ are found not to be involved as in other forms of warty growth, but to be made up of epithelial and connective-tissue elements, resembling more the fibrous mollusc. Furthermore, they are almost exclusively found upon the eyelids, breasts, and neck, regions often the seat of molluscum tumors.

There is one point I wish to make in relation to the etiology of molluscum contagiosum. If it depended upon any other cause than contagion, as some authors maintain, why should cases cease to appear in an institution after all the lesions had once been removed from the skin of the various children affected?

I think the fact that new lesions continue to appear upon a child's face so long as the older lesions are allowed to remain, especially if they be suppurating or inflamed, and that the child continues wholly free from any newly developed growths from the moment these lesions are destroyed, goes far toward proving the disease to be autoinoculable as well as transmissible to others.

*Inoculation of Molluscum.*—Within the past month I have removed a molluscum contagiosum growth from the side of the fourth finger of a physician of this city, who, as ophthalmic surgeon to one of our large orphan asylums, where molluscum contagiosum is epidemic, has of late removed many such growths from the faces of his little patients, fifty or more of whom have had the disease. The doctor had made the diagnosis in his own case, believing he had contracted it in this way, and came to me knowing it to be a question in which I was interested. What can this be but a case of inoculation? Sometimes the mollusc tumor attains such a size and takes on such an unusual appearance as to make the diagnosis obscure. Two weeks ago I removed such a growth from a little girl's cheek, which was as large as a cherry, deeply embedded in the skin, covered with thin pinkish skin, and having a minute central opening through which sebaceous-like material could be pressed. When scooped out, a hole was left in the cheek which would admit the end of the thumb.

I have notes of several instances where one only of several brothers and sisters has shown the growths, the history being that this particular child had a playmate or intimate similarly affected, with whom the other children did not associate to the same extent or not at all.

*Dermatitis from Oil.*—I have had a number of cases of follicular dermatitis of the hands, arms, and thighs, in machinists and those whose work brings them into contact with paraffine, fish, and other oils. The lesions are papular, pustular, and furuncular for the most part (in one case the furuncular element predominated), and occur upon the exposed parts, such as the hands, arms, and also the region of the knees and thighs of those who work in machine-shops, wire and silk factories, etc.

Very much the same variety of dermatitis is occasionally produced by benzole, chrysarobin, and similar drugs.

The papular and pustular lesions on the arms and legs (mostly the inner surfaces of both limbs) might be called "oil acne." It develops only on the parts which come in contact with the oil, or with the clothing which has become saturated by it. In one case, in which the lesions were principally boil-like, occurring in an employee of a wire factory where fish-oil was used, peculiar concentric annular rings of erythema appeared about the furuncles on the hands and arms.

Since the summits are often dark-colored from the accumulated oil and dirt, the lesions are spoken of by the men in such factories as "black boils."

In some cases the inner surface of the forearms and the region about the knees become rough, harsh, and dry.

Recovery is rapid after the cause has been removed. When the occupation cannot be changed I order repeated washings with green soap, followed by bland ointments and protective dressings. The oil-soaked clothing must be discarded, and subsequent care and cleanliness exercised.

*Purpura.*—Among the cases of purpura of which I have notes, I find several interesting in the matter of differential diagnosis. On May 9, 1887, I saw a young girl whose limbs and portions of the trunk were literally covered with purple spots, which close inspection showed to be simply the result of flea-bites (purpura pulicosa).

The lesion usually produced by the bite of the *Pulex irritans* is an erythematous spot with a central point, but so closely does it at times resemble a true purpura that the error has been made of so regarding it, and an epidemic of "purpura" has been reported which turned out to be one of flea-bites only.

On January 11th I saw a four-year-old boy, S. S——, whose whole body was covered with purple dots the size of a pin's head and who had a "black eye." Ecchymosis of the eyelids was accomplished by a hemorrhage into the sclerotic, all due to the violence of coughing in pertussis. These hemorrhagic lesions disappeared in due time as the cough grew better, a few new purpuric spots appearing now and then as the case progressed. On April 23d the child began coughing violently again, after an apparent cure had been effected, and the purpura again made its appearance, and the tissues about the eye showed the same ecchymosis. In about three weeks' time the child was well again, the spots having in the meanwhile disappeared.

*Favus.*—Favus is much more prevalent in New York than is generally supposed. It is confined for the most part, as yet, to those who have brought it with them from the old world. Russian, Polish, Hungarian, and other boys, who have the disease in its most active and dangerous form, are to be found in our down-town public schools playing with other children out of school, exchanging hats with comrades, and exercising no care

in the use of combs and brushes, hence it is fair to presume the time will soon come when more American-born children will become affected. It is sometimes surprising to note how long the germs will remain active after the disease has appeared to be cured. I have repeatedly seen adults with a great portion of the scalp permanently bald, as a result of the ravages of favus contracted in childhood, who have shown evidences of renewed activity of the favus after having for a number of years considered themselves entirely well. It is very difficult to induce patients with favus to stay under treatment long enough to effect a permanent cure. As soon as the scalp appears well they are satisfied and neglect treatment, and if in an institution insist upon leaving.

The parents, too, have such a high appreciation of the advantages offered by our public-school system that they will not keep their children at home even when most strongly urged to do so. It is self-evident that the schools should exclude children with such a contagious disease and one so difficult to cure.

The following history illustrates how readily at times the disease may be transmitted to those in close contact with a favus patient, as from a mother to her child, a patient to a nurse, etc.:

M. S—— was transferred from Bellevue Emergency Hospital to Charity Hospital, with her child, on November 1, 1886. She gave a history of favus of fifteen years' standing. On admission the disease involved the entire scalp, and favus cups were well developed. Her baby first showed signs of the disease about November 14th; three spots appearing on the head, and one on the arm. About one week later the nurse, Miss W——, and a ward helper were attacked, three spots appearing on the forearm of the nurse, and one on the arm of the helper (who is now said to have his scalp involved). A few days later spots developed on the arm and head of another baby, which were suspected by the house physician of being the same affection. On the wrist of Miss W——, the nurse, pustules appeared three or four days after the onset, and these were followed by well-developed favus cups. She has been treated by pure carbolic acid, collodion with hydrarg. bichlor. (gr. iij. to ℥ j.), and subsequently with ung. hydrarg. ammoniat. When I first visited her, on December 16th, the lesions were still present upon the arm of the nurse, but they soon disappeared after friction with the tincture of green soap, then applying ammoniated mercury, ʒ j. to lanolin ℥ j., and, after a few days, painting the part with four grains of bichloride in an ounce of collodion. To effect a cure in favus of the scalp, the hairs must be epilated from the whole diseased area while parasiticides are being employed.

*Leprosy.*—The case of leprosy which I presented at the County Medical Society in February, 1888, to show the beneficial effects of surgical treatment, has continued to improve ever since; the face being to-day quite free from leprous nodules or tubercles. The ulnar nerve has decreased to about one-half the size it then had, and the infiltrations upon the thighs and trunk have in a great measure disappeared. The anæsthesia of the hands has improved to such a degree that the slightest stick or pinch is now felt, and the patient can use his hands much better than formerly. This is especially noticeable in opening doors, buttoning his clothes, etc.

These favorable results have been brought about by the almost constant employment of large doses of chaulmoogra oil. Beginning with ten-drop doses in capsule three times daily, the patient has gradually increased the dose until at times he has taken as many as ten capsules, or one hundred drops at a dose, three times a day, making three hundred drops as a daily dose. This is a larger dose than I have known any patient to stand. In Paris last year I saw a leper who had taken as high as two hundred and ten drops daily for a short time.

Besides chaulmoogra oil internally, our patient has used chrysarobin and pyrogallol externally in ten per cent. ointment at times, but not with sufficient persistence to materially affect the general condition or to have much share in the improvement.

*Dermatitis and Eczema from New Flannel.*—Last winter I was asked to see seven babies in the Infant Ward of Charity Hospital, who had simultaneously developed an eruption of the skin. They were all found to be similarly affected with a maculo-papular eruption over the face, neck, arms, and hands, while about the buttocks and folds of the groin either intertrigo, dermatitis, or eczema, and sometimes all three varieties of lesion, were present. Examination and inquiry elicited the fact that all of these children had been wearing undergarments and skirts made of new red flannel which had not been washed. I took pieces of this flannel and tested them for arsenic and coraline, but finding neither of these poisonous substances present, concluded that the eruption was induced by the irritant nature of the new flannel alone upon the delicate skin of the infants, having frequently seen this effect of new flannel upon the coarser skin of adults, where it is capable by long contact of exciting an eczema.

*Verruca on Vermilion Border of Lips.*—Since this condition is one rarely observed, and as Dr. Elliot presented a case at the last meeting of the Dermatological Society, being the only one he had ever seen, I am led to report three cases which have come under my observation during the past year.

One young girl, eleven years of age, was seen on April 13th. She had sixty warts on one hand, thirty-three on the other, twenty-nine small ones on the face, and seven upon the vermilion border of the upper lip, the largest one being situated upon the mucous membrane of the inner surface of the lip, quite within the mouth.

The parent wart was upon the end of the index-finger of the left hand, and had existed for two years. At the present time it is fissured and moist. The warts have existed upon the face and lips for about a year.

On December 2d of last year I saw a young boy who had upon the mucous border of the lip three small warts arranged like a chain of beads. He had had a large "seed"-wart upon the hand for about two years.

The third case was in the person of a little girl, who came to the Northwestern Dispensary on November 5, 1888. She had twenty-three warts upon the hands, two upon the arms, and one upon the vermilion border of the upper lip. They were all removed with the sharp spoon. It will be noted in all of these cases that warts of long standing were present upon the hands, and in each case there was a large wart (usually the first one noticed by the patient), which had reached the condition known among children as a "seedwart." In my experience, when this parent wart, as we may call it, is once thoroughly removed, other new warts cease to appear, especially when all warts present upon the body are radically cured at the same time. This is also true of molluscum contagiosum, as already stated, and appears to me to give much weight to the popular opinion that warts are contagious.

I have already reported, and, so far as I am aware, have been the first to call attention to it, that molluscum contagiosum may occur upon the vermilion border of the lips. A wood-cut accompanying my article in the *Cutaneous and Venereal Journal*, August, 1886, shows the location of several molluscs in this region.

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VISCUM FLAVESCENS, AN OXYTOXIC.—Dr. Daniel Gray, before the Ogeechie Medical Association of Alabama, demonstrated that a tincture prepared from the leaves of *viscum flavescens* (Pursh.) is an oxytoxic of great value. A number of cases in which this effect was obtained were cited, in two of which, at least, it exhibited all the good properties of ergot. His first attention was called to this use of the mistletoe, by the fact that it is employed by the stock-breeders to secure the expulsion of retained secundines in cows. He further declared that the activity of the growth appeared to depend upon the tree to which it was parasitic, the best medicinal mistletoe being that found on the persimmon.—*Medical Age.*

## ON THE RELATION BETWEEN THE DISEASES OF THE TEETH AND EARS.[1]

By ROBERT BARCLAY, A.M., M.D.,

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MR. PRESIDENT AND GENTLEMEN: If, in your practice, you recognize the presence and influence of reflected oral irritation as a leading factor in the predisposition, production, and continuance of aural symptoms and diseases of the ear, and forthwith get rid of it, if possible, you will find success more promptly attend your therapeutic efforts, and a recurrence of the aural phenomena less frequent. Among the principal conditions giving rise to oral irritation may be found cutting, crowding, shedding, and caries of the teeth, gingivitis, hyperostosis, pyorrhœa alveolaris, periostitis (pericementitis), tartar, hypertrophy of the gums, catarrhal inflammation of the buccal mucous membrane, vulcanized red rubber and ill-fitting plates and dentures, numerous amalgam fillings, and unskilful dentistry.

The following illustrative cases are worthy of your consideration:

CASE I.—A German clergyman, aged thirty-seven years, consulted me for slight deafness, tinnitus, and occasional pain of the right ear, which is worse on "taking cold." Treatment availed little until after the removal of a supernumerary right upper wisdom tooth which was hidden beneath the gum, when he soon recovered.

CASE II.—A clerk, eighteen years of age, applied for relief of intermittent otorrhœa and attendant symptoms of left ear, of fifteen years' duration. Cure was effected in less than four weeks; and no recurrence took place until nearly nine months afterward, when the lower wisdom tooth of corresponding side was found in eruption. The discharge persisted until this was fully cut, when it ceased.

CASE III.—A clerk, nineteen years of age, applied for treatment of otorrhœa and attendant symptoms of left ear, of about eleven years' duration. Within five weeks he was cured of this, and had no recurrence until one year afterward, when former symptoms and otorrhœa returned. The lower wisdom tooth of this side was cutting, and otorrhœa would not cease until this was fully cut.

CASE IV.—An Englishman, thirty-four years of age, a conductor, consulted me for otorrhœa and attendant symptoms of left ear, of about twenty months' duration. There were many carious spots in the teeth and the left lower second molar tooth was very carious. After three months' treatment, the otorrhœa had almost ceased, when he placed himself under a dentist's care. The dental operations aggravated the otitis and the discharge grew worse. Treatment of the ear was steadily persisted in until after the teeth had been put in good order. Improvement in the aural trouble began immediately after the dental treatment was suspended, and the patient was dismissed shortly afterward.

CASE V.—A young lady, about eighteen years of age, consulted me for deafness, slight discomfort, and tinnitus of the right ear, which she had first discovered on awakening in the morning ten days before. There was cerumen in both ears, impacted in the right. Both upper wisdom teeth were carious.

CASE VI.—A lady, twenty-five years of age, a teacher, came for treatment of deafness of left ear, which had begun about one year before, but which had grown much worse of late. A sensation of sound sometimes persisted after the sound had ceased. She had confused hearing when several people were speaking simultaneously. Deafness was very marked. The drum-head appeared paler than normal. For some time she had been cutting both left wisdom teeth. When the right lower one was cut later, the right ear began to be affected, but treatment checked further aural trouble.

CASE VII.—A drug clerk, eighteen years of age, consulted me for intermittent left earache of several months' duration. This was worse at night. He had chronic nasopharyngitis. There were no particular physical signs nor subjective symptoms of an otitis to account for the intense earache. The left upper second molar and both left lower bicuspid teeth were carious. A slight Politzer inflation and removal of the decayed teeth gave permanent relief from earache within a few hours.

CASE VIII.—A German, fifty-six years of age, a yard-laborer, came to me for relief from profound deafness, tinnitus, autophonous voice, and slight itching pain in his ears, of five months' standing. Twice before this, at several years intervals, he had had similar trouble, developed suddenly after wetting his head and exposure to cold. Impacted cerumen was found in both ears. Of his teeth, seven from the upper, and eight from the lower jaw, are missing. There are carious: Both right upper incisor, the canine and both bicuspid; both left upper incisor, the canine, and third molar; the right lower central incisor, canine, and first bicuspid; and both left lower incisor, the canine, second bicuspid, first and second molar teeth.

CASE IX.—An Englishman, twenty-two years of age, a blacksmith, came for relief of slight deafness, autophonous voice, tinnitus aurium, vertigo, and weakness of several weeks' duration, on account of which he had been compelled to quit work. Cerumen was found in both ears. He was cutting his wisdom teeth.

CASE X.—A Frenchman, forty-six years of age, a mechanic, came to me for relief from slight pain, tinnitus, deafness, and autophonous voice, of three months' duration. He was very deaf; and during mastication could hear no ectogenetic noise. Cerumen was found in both ears. Of his teeth, three are missing from each jaw. There are carious (mere roots and shells only remaining of these): The right upper second bicuspid, first and third molar; the left upper first and third molar; the right lower second bicuspid; and the left first and third molar teeth.

CASE XI.—A carpenter, fifty years of age, born in Ireland, came to me for relief from severe deafness, autophonous voice, and varying tinnitus aurium, with violent ear-cough, of one month's duration. Mastication sometimes caused odontalgia. There was a small nasal polypus. Cerumen was found in both ears. Of his teeth, there were carious: The right upper second bicuspid, first and second molar; both left upper bicuspid, and three molar teeth; and the right lower first and second molar teeth.

CASE XII.—A flagman, fifty-seven years of age, born in Ireland, sought relief from violent itching in his right ear, with autophonous voice, tinnitus, and deafness of both ears. Both drum-heads were somewhat retracted. Both upper wisdom teeth decayed to mere shells.

CASE XIII.—An Englishman, forty-two years of age, a car-builder, came to me for relief of pains which radiated from the ears in various directions, sometimes settling behind the eyeballs, as it were. This, and deafness, with autophonous voice, and tinnitus of both ears, had lasted some years. There were ingrowing hairs and cerumen in both external auditory canals. Of his teeth, five in the upper, and one in the lower jaw, were missing. There were carious: The right lower first molar, left upper second molar, and left lower second bicuspid teeth. The crowns were worn off all the upper incisor and left upper canine teeth; the roots of the right upper second molar and left upper first molar teeth are exposed; the right lower canine tooth is crowded out of the arch; and the lower teeth are covered with tartar.

CASE XIV.—A woman, thirty-eight years of age, employed in housework, consulted me for a "dumb-aching," with "roaring and ticking," and slight deafness of left ear, and with pains shooting from the angle of the lower jaw to the vertex. This had persisted for four weeks, and

[1] Read before the Medico-Chirurgical Society of St. Louis, Mo., June 25, 1889.

was aggravated by scrubbing a floor, or blowing the nose. There was slight dulness of the drum-head and a few dirty spots thereon, with slight myringeal congestion. The left upper second molar, and central and lateral incisor teeth are very carious. There are cavities in the left lower back teeth, and some on the right side also.

CASE XV.—A clerk, twenty-four years of age, applied for relief of symptoms of catarrhal otitis media, aggravated of late, worse on the right side. The drum-heads showed peculiar but characteristic trophic changes. Both lower wisdom teeth, for two years, have been coming through the gum, and causing discomfort. The right one is coming in directly forward, against the second molar tooth; the left, almost backward, along and in the jaw and gum, and cannot get out. The right upper wisdom tooth is through, the left one not yet through cutting.

CASE XVI.—A school-girl, twelve years of age, came to me with intermittent earache of both ears, of two months' duration. She said she had had a slight "discharge" from the left ear two months before, at which time she had had much odontalgia also. The drum-heads show no characteristic changes. She has five very carious teeth.

CASE XVII.—A clerk, twenty-four years of age, applied for relief from tinnitus and slight deafness of left ear, of one week's duration. Cerumen filled the canal of the left ear. There was one carious upper tooth on the left side.

CASE XVIII.—A middle-aged woman, born in Ireland, employed in housework, applied for relief from tinnitus of the right ear, worse at night, of two months' duration. She had occasional odontalgia. No marked changes of the drum-head were found. Her right upper teeth were decayed to mere shells.

CASE XIX.—A boy, aged eighteen months, was placed under my care for abscess of the right ear, which had been developing for some days, and had ruptured the preceding night. He had had an attack of tonsillitis one week before. The right lateral incisor tooth had been cut about that time. The left upper canine tooth was cut five days, the right upper and both lower anterior molar teeth eight days, and the right upper canine tooth about sixteen days, after being first seen by me. The otitis persisted until after these teeth were fully cut, when it readily passed away under treatment.

CASE XX.—A clerk, thirty-two years of age, came to me for relief of deafness and autophonous voice, of six days' duration. There was tinnitus of the right ear, and numbness about the right auricle. He had had a similar attack three years before. Cerumen was found in both ears. He was wearing, when seen, a vulcanized red-rubber dental plate carrying all the upper teeth, except the molars, which remain, covered with tartar. The six lower molars are missing, and the right upper first molar tooth is decayed to a mere shell.

In the *Archives of Otology*, New York, March, 1885, is an article—whose title I have borrowed for my own—written by Dr. Bruns, of New Orleans, La., containing a report of an examination of fifty cases taken from the wards of Charity Hospital "at random." Of these there were twenty-three whose "ears" were not "normal," of whom nineteen had "hearing" that was not "good;" and although the writer actually states that there were nineteen cases in whom the "hearing" was more defective on "the side on which the teeth were worse," yet, nevertheless, he draws the conclusion "that those cases are exceptional in which dental irritation gives rise to aural affections."

Dr. Samuel Sexton, of New York, in THE MEDICAL RECORD, June 1, 1889,[1] discussing "dentition, caries of the teeth, and some of the neuroses resulting therefrom," says that although the special-sense organs, the ear, nose, and eye, connected with the teeth and with each other through a complex nervous network, while in health "maintain an independent and separate existence, so to speak, their intimate sympathetic relationship scarcely manifesting itself perceptibly," yet, "under certain conditions of the system, however, these organs become strikingly susceptible to disturbing influences, and so far as his own experience goes, from no cause more frequently than from dental irritation." The same writer, in his Prize Essay, "On the Affections of the Ear Arising from Diseases of the Teeth," *American Journal of the Medical Sciences*, January, 1880, states that "on reviewing the records of some 1,500 cases, he finds that the teeth are more frequently the seat of disease than was at first suspected, for of these 1,500 aural cases, perhaps one-third owe their origin or continuance, in a greater or less degree, to diseases of the teeth." And again, "that all of the morbid conditions of the mouth which have been herein described may exist without serious or recognizable aural affection being developed, cannot be denied, but progressive disease of the ears, often without the occurrence of pain, is, in his experience, more common when these oral affections are present than when the mouth and throat are in a healthy state." Those who desire an instructive analysis of this subject will do well to consult those two essays.

Presuming that the gentlemen to whom these remarks are addressed are of course familiar with the anatomy of the nervous system and its connections between the mouth and ear, I shall therefore spare you a detailed description thereof, which may be found in any standard treatise on anatomy.

Oral irritation reflected to the ear produces, first, a change in the calibre of the blood-vessels, through vasomotor influence; this induces hyperæmia, pruritus, abnormal glandular activity, and congestion of the integument of the canal, and also of the mucous membrane of the tympanum. Organic changes result, and at the same time there is established a predisposition to exacerbations of the chronic process, and acute otitis may supervene.

Success by treatment based on local aural symptoms, and operative on local aural conditions only, is delayed and often impossible.

In cases, therefore, of obstructing accumulations, seborrhœa, eczema, zoster, diffuse and circumscribed inflammations of the canal, inflammations of the tympanum, earache—I may say in all cases having aural symptoms or disease, the oral cavity, as well as the nares and other parts of the upper respiratory tract, should be intelligently examined for irritation or disease, and if either be found there, it should at once be removed if possible. Should your acquaintance with oral pathology be so limited as to leave you in doubt as to the presence of oral irritation or disease, you will do well to seek counsel in diagnosis from a skilful dental surgeon.

[1] "The Care of the Teeth, from a Medical Practitioner's Standpoint." Read before the Practitioners' Society, New York, May 3, 1889.

## A SUMMER HEALTH-RESORT.

BY WILLIAM H. DAKEMAN, M.D.,
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PHYSICIANS in search of climatic aid have been led to send their patients to the various summer places of note, such as the Catskill and Adirondack Mountains of New York; the White Mountains of New Hampshire; Berkshire, Mass.; Atlantic City and Long Branch, N. J.; Aiken, S. C.; Asheville, N. C.; Denver, Col.; and numerous other places at home, as well as the many renowned places abroad.

After careful study of this climate, I will attempt to show that we can add to the list a health-resort of superior advantages, the Pacific slope of Southern California, and particularly as a summer resort. A visit to this sunny land of a section of country lying along the Pacific coast, situate between latitude thirty-two and thirty-five degrees north, and between longitude one hundred and seventeen and one hundred and twenty degrees west, and comprising a portion of each of the four counties of San Diego, Los Angeles, Ventura, and Santa

Barbara, very favorably impresses the writer of the superior natural sanitary advantages offered, as being an almost perfect health-resort.

Much has been said and written, in reference to this section of country, as being a very favorable winter resort. But as a summer resort it is far superior. Both seasons, however, have their own peculiar advantages, and as a winter resort it has no equal. And Southern California is rightly termed "the sunny land," "the land of blue sky," "the paradise of the world."

In speaking of this, I have reference to that slope of land along the coast, from the city of San Diego to Santa Barbara, extending eastward for fifty miles from the coast to what is known as the Sierra Madre Mountains, including the fertile valleys and undulating foothills and mountain spurs, until an elevation of 6,000 feet is reached; and in which is contained the prosperous cities of Los Angeles, San Diego, Pasadena, Santa Barbara, Santa Ana, etc., and the seaside resorts of Santa Monica, Long Beach, Coronada, and Catalina Island, at which places bathing in the surf of the Pacific gives new charm and zest to our wearied existence.

Let us carefully make note of the following tables, as compiled from the United States Signal Service Reports of the Los Angeles station.

*Table showing Temperature (Fahrenheit), Humidity (per cent.), and State of Weather for the Colder Six Months.*

| 1888–1889. | Mean temperature. | Highest temperature. | Average mean temp. for ten years, from 1878 to 1888. | Mean relative humidity. | Clear days. | Fair days. | Cloudy days. | Foggy days. | Rainy days. |
|---|---|---|---|---|---|---|---|---|---|
| November | 57.2 | 83.8 | 58.1 | 74.1 | 15 | 8 | 7 | none. | 7 |
| December | 55.2 | 78.8 | 55.6 | 71.0 | 18 | 6 | 7 | " | 6 |
| January | 51.2 | 71.0 | 52.5 | 80.0 | 19 | 6 | 6 | " | 4 |
| February | 54.0 | 84.0 | 54.4 | 83.0 | 18 | 8 | 2 | " | 2 |
| March | 55.0 | 81.0 | 56.0 | 77.0 | 9 | 18 | 4 | " | 7 |
| April | 59.0 | 93.0 | 58.6 | 75.0 | 12 | 13 | 5 | " | 4 |
| Total | .... | .... | ..... | .... | 91 | 59 | 31 | .... | 30 |

*Table showing Temperature (Fahrenheit), Humidity (per cent.), and State of Weather for the Warmer Six Months.*

| 1888. | Mean temperature. | Highest temperature. | Average mean temp. for ten years, from 1878 to 1888. | Mean relative humidity. | Clear days. | Fair days. | Cloudy days. | Foggy days. | Rainy days. |
|---|---|---|---|---|---|---|---|---|---|
| May | 60.8 | 83.0 | 62.0 | 79.2 | 5 | 18 | 8 | none. | 1 |
| June | 67.5 | 94.0 | 65.3 | 74.1 | 17 | 12 | 1 | " | 0 |
| July | 67.9 | 95.0 | 68.1 | 75.6 | 18 | 13 | 0 | " | 1 |
| August | 7.6 | 97.0 | 69.8 | 79.4 | 23 | 8 | 0 | " | 1 |
| September | 68.4 | 98.2 | 67.6 | 77.7 | 21 | 7 | 2 | " | 0 |
| October | 61.9 | 98.0 | 62.5 | 82.3 | 16 | 10 | 5 | " | 3 |
| Total | .... | .... | ..... | .... | 100 | 68 | 16 | .... | 6 |

From the above tables we learn that the temperature for the warmer six months is a very few degrees higher than for the colder six months; that during the heated part of the day the mercury runs very little higher during the summer than during the winter; that the mean relative humidity is comparatively lower in summer than in winter; and we have more clear and fair days, and less cloudy days, and no rainy days in summer, giving us every day to be out of doors.

From the above tables we learn that during the warmer six months we had, out of the 184 days, 100 clear days, 68 fair days, or 168 sunshine days, and only 16 cloudy days. Of the 16 cloudy days, only on six different days did rain fall; three light showers occurred in daytime, and three light showers at night. During these six warmer months we find that the highest temperature was only 98° F., and from United States Signal Service Reports I find that it reached this point but twice, once in the month of September, and once in the month of October. And on but very few days did the temperature run up in the nineties. Generally the temperature, during the hottest part of the day, rarely reaches 95° F., and this always occurs between the hours of 10 A.M. and 2 P.M., after which there is a cool breeze blowing from the ocean. The heat, therefore, is at no time oppressive, but the weather is always comfortable, always cool in the shade; and as night approaches it grows from ten to twenty degrees cooler, making it very comfortable, and necessary at all times of the year to sleep under blankets. As the nights are always cool, one gets good, restful sleep, from which he awakes refreshed. It is generally remarked that a person requires more sleep in this climate than in a colder one—at least he is inclined to sleep more, and the consumptive rests in peace. It is to be noticed that we have no foggy days. But at certain times of the year, as night approaches, a fog blows in from the ocean, and sometimes in the morning we have a high fog, having the appearance of being cloudy. The relative humidity falls as the temperature rises, thus relieving us of that depressing feeling during the heated term. Take any given day, the temperature at 7 A.M. being 70° F., the relative humidity is about eighty-five per cent. From 10 A.M. to 1 P.M., the hottest part of the day, when the temperature may be 85° or 90° F., the relative humidity will be as low as fifty-five or sixty per cent.

From this we learn why the heat is never oppressive, and why sunstrokes never occur, and why one does not sweat away in perspiration, and seek the ice-cooler for comfort.

From the above table it will be seen that there are only four of the six warmer months where the average temperature reaches only 67° F. And we also learn that the mean temperature for the six warmer months, for the past ten years, has been at the average standard of only 67° F. The months of May and October are of about the same temperature, or several degrees cooler, averaging about 62° F. for the past ten years.

Here, in the six warmer months, we find comfort and peace from oppressive heat in a balmy climate. The clearness and purity of the atmosphere is remarkably refreshing and invigorating. There are no windy, nor wet, nor damp, nor foggy days, which gives us every day to be out in the open air, inhaling a pure aseptic atmosphere. Dr. Bodington, of Warwickshire, forty years ago, said: "To live in, and breathe freely, the open air, without being deterred by wind or weather, is one important and essential remedy in arresting the progress of phthisis."

Regarding the attractiveness of the scenery, those who have travelled much and visited this section of country are at once captivated with its grandeur and beauty, and generally concur in the opinion that there is no place so charming. It abounds in majestic mountain heights and cliffs, and romantic cañons and ravines, and fertile valleys of exquisite beauty, and rippling streams finding their way from the mountains to the great Pacific. Los Angeles, from its central position, can boast of many attractive drives over good roads to local places of interest, over rounding bluffs and beautiful valleys to points commanding views of billowy hills and distant amphitheatre of mountains, of most beautiful scenery, and a charming foothill drive to the ocean.

Los Angeles is a beautiful, thriving city, of about eighty thousand inhabitants. The principal streets are paved with asphalt or bituminous rock, and are kept clean by being swept every night. An outfall sewer to the ocean is soon to be constructed.

The resident portion of the city contains some of the most beautiful homes in America. They are surrounded by large green lawns, laid out with exquisite taste and beauty, and contain a variety of evergreen trees and palms, and semitropical plants and flowers of all descriptions. There is a beautiful park in the heart of the city, and several other parks are being laid out and decorated in an elaborate manner.

The city contains numerous finely constructed private hotels for the accommodation of the tourist and invalid, built in the resident portion of the city, away from the noise of the business portion of the city.

Seventeen miles westward from Los Angeles is the sea-

side resort, Santa Monica, where surf-bathing in the warm coast stream is most enjoyable, and can be indulged in every month in the year. Twenty miles southward is the seaside resort, Long Beach, and five miles from this, westward, is the port of San Pedro, where a steamer awaits the tourist for an ocean voyage of thirty miles, to Catalina Island, which place is a rapidly growing, popular summer resort. Good hotels with good accommodation will be found at each of these places, open to tourists during the summer months.

About one hundred miles southward from Los Angeles is Coronada Beach, with its renowned Hotel del Coronada of 750 rooms, beautifully situated, with grounds laid out with exquisite taste and beauty, and wide, magnificent views of mountain, ocean, and bay scenery, and whose surf-bathing is most pleasant and enjoyable, and where the sunny days pass away almost like a dream.

Regarding the healthfulness of this section of Southern California, statistics prove it to be the most healthful spot in America. From the Board of Health reports of the prevailing diseases, we learn that cholera infantum is an almost unknown disease among the little ones, which in our eastern cities carries away thousands upon thousands during the summer months. Diarrhœa and dysentery, which also swell the death-list up in the tens of thousands, are indeed of very rare occurrence, and the fear of the death of the babe, from these diseases, by those mothers who have lived East, is a thing of the past with them.

As there is no stagnant water, nor damp soil for the decomposition of vegetable matter for the development of malaria, intermittent and remittent fevers are equally as rare.

The purity of the water, which is derived from the mountains, which is free from contamination of sewerage and decomposed animal or vegetable matter, gives us almost perfect immunity from the more common zymotic diseases. When, however, such diseases do occur they usually run a mild course.

The even state of the temperature, with no days of oppressive heat; the purity of the atmosphere, with a low relative humidity; and every day to be out of doors, makes this section of country a most admirable one for consumptives. A patient with phthisis should come here in due time and remain at least two or three years, when in all probability, with due care, the progress of the disease will be arrested. Many such persons I see daily. The same may be said of those who are afflicted with diseases of the kidneys.

Having a climate here which is conducive to sleep, and which acts as a sedative to the nervous system to the many who are afflicted with nervous trouble, the result of overwork, or from other causes, for them no better place can be found on the face of the globe.

A case of pneumonia, which recently occurred in my practice, I here desire to report, as it will give evidence of the mildness and aseptic condition of the atmosphere, and show how such a fatal disease as pneumonia can be successfully treated in this climate. The patient, a young man, twenty-two years of age, had been working on street paving. On the night of May 2d he had the initial chill and pain on his right side below the nipple. He was very anxious to keep at his work, and did so until the 8th instant, when, almost exhausted and greatly emaciated, he consulted me for shortness of breath and soreness of the right side of his chest. On examination I found there was consolidation of the whole of the right lung. He never kept his bed, but passed most of the day out in the open air, sitting in the park, as he lived only one block away, and walked to my office every day, a distance of three blocks. He gradually recovered, and in the course of four weeks he went to work again as well and strong a man as ever.

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Destruction of an Anatomical Museum.—In Madrid, recently, fire destroyed the greater part of the Museum of Anatomy attached to the University.

## CLIMATIC TREATMENT OF CONSUMPTION.

By H. D. NILES, M.D.,

SALT LAKE CITY, UTAH.

The pretty general acceptance of the germ-theory of Koch, and the encouraging progress made in climato-therapeutics during the past few years have given a new and strong impetus to the study of the treatment of phthisis. And when an effective germicide, which may be safely and easily applied to pulmonary cavities shall have been discovered, and each factor of a climate shall be capable of mathematical computation, and its therapeutical effect accurately determined, it is believed we will be provided with formidable weapons with which to cope with this much-dreaded disease.

If this much has not yet been accomplished, enough has been done to show some of the errors of the past and to promise a more hopeful treatment for the future.

The great majority of the medical profession, even those who are not quite prepared to believe in the bacillar origin of phthisis, or who do not fully accept the remarkably favorable clinical evidence from the high-altitude resorts, are agreed on the following points: 1. The importance of local treatment has been underestimated in the past. 2. Preventive treatment has not received the attention it deserves. 3. In the general treatment too much reliance has been placed on drugs.

While fully appreciating the usefulness of proper medicinal treatment, hygienic surroundings, correct habits, and especially appropriate exercises, the object of the present paper is mainly to show how nearly a well-chosen climate may meet these recently modified views of treatment, and to make suggestions on the selection and adaptation of a climate to cases of lung disease.

The writer believes the following conclusions hold good at the present time:

1. More effective than any available medicinal application is the continuous inhalation of the nearest aseptic and the most absorptive air possible, of even temperature, free from irritating impurities, sufficiently rarefied to distend and reach every part of the lung and gradually produce increased chest capacity.

2. In the treatment directed to the general improvement of the phthisical patient proper climatic surroundings are first in importance. A place should be selected where the air is pure, light, bright, bracing, tonic—even exhilarating—and of even temperature, where the greatest inducements, as well as opportunities, are offered for outdoor life amid new and attractive scenes.

3. A place possessing precisely the opposite of those climatic conditions most favorable to the production of phthisis is the one to be chosen for the residence of those in whom there exists an inherited or acquired predisposition to this disease.

*Prevention of Phthisis.*—The advisability of early seeking a proper climate by those who are predisposed to consumption needs only to be mentioned here. Nor is any argument needed to prove that as low, moist, warm places are most favorable to the development of phthisis, a residence in a high, dry, cool place should be advised where such a tendency exists. As this class of prospective invalids more fully appreciate their increased risk in unfavorable surroundings they will be more willing, in spite of business or social interests, to take every precaution, and as the physician's knowledge of climato-therapeutics becomes more precise he will be more positive in his counsel, and the preventive treatment of phthisis will be as popular in practice as it is now in theory.

*Local Effete of High-altitude Climate.*—The nearest approach to that air which has been described as the best local application available for diseased lungs is found only in high, dry places. For it is here that the atmosphere is the nearest aseptic, and possessed of the greatest absorptive properties. Its coolness, equability, purity, freedom from dust, fog, vapors, and smoke depending upon other

conditions, which also exist in favorably located high-altitude places.

Until an easier and more effective method of introducing an efficient germicide into the lungs is found than that by pulmonary injections or gaseous enemata, or inhalations of medicated vapors, sprays, or air, it is believed that as much or more good may be accomplished by placing the patient where the lungs are continuously bathed in an air possessing naturally precisely the same qualities (if not in quite the same proportions) that we would artificially produce.

The aseptic and absorptive properties of the atmosphere peculiar to dryness, coolness, and altitude are too well known to need explanation here. The following tables, however, may serve to give an approximate idea of the markedly different degrees of strength of these qualities in different locations. Table A shows the number of bacteria in ten cubic metres of air, taken as nearly as possible at the same time in June, 1883, at the respective places, by Professor Miquel.

*Table A.*

| | |
|---|---|
| At an elevation of from 2,000 to 4,000 metres..... | None |
| On the Lake of Thun, 560 metres..... | 8 |
| Near the Hotel Bellevue at Thun..... | 25 |
| In a room of Hotel Bellevue..... | 600 |
| In the Park of Montsouris (near Paris)..... | 7,600 |
| In Paris itself (Rue de Rivoli)..... | 55,000 |

In Table B, Dr. Denison's method of computing the vapor transpiration of the same person in the different places, varying in coolness and dryness, is used.

Jacksonville, Colorado Springs, and Salt Lake City are compared in this way in the case of a man who, we will assume, breathes 500 cubic feet of air in twenty-four hours, dew-point of expired air being considered 94° F., Glaisher's estimate of weight of vapor at saturation of air of given temperature being adopted.

*Table B.*

| | Salt Lake. | Colorado Springs. | Jacksonville. |
|---|---|---|---|
| Mean temperature..... | 49.5° | 47° | 70° |
| Grains of vapor in saturated air per cubic foot at given temperature..... | 4.0 | 3.69 | 8.01 |
| Mean relative humidity..... | 0.44 | 0.56* | 0.754 |
| Cubic feet of air breathed in twenty-four hours..... | 500 | 500 | 500 |
| Grains of vapor inhaled..... | 880 | 1,033 | 3,020 |
| Grains of vapor exhaled, with dew-point at 94° F..... | 8,345 | 8,345 | 8,345 |
| Vapor exhaled more than inhaled..... | 7,465 | 7,312 | 5,325 |

* Only a record for a short period obtainable.

| | Grains. |
|---|---|
| Excess of moisture exhaled in Salt Lake City over Jacksonville..... | 2,140 |
| Excess of moisture exhaled in Salt Lake City over Colorado Springs..... | 153 |
| Excess of moisture exhaled in Colorado Springs over Jacksonville..... | 1,987 |

It is only fair to add that the increased respiratory activity induced by the rarefied air and greater amount of exercise usually taken in high, dry places would make the difference in transpiration still greater. Denison estimates that one breathes about twenty per cent. more air in Denver than in Jacksonville with the same amount of exercise.

The investigations of Dr. Denison and Professor Miquel not only prove conclusively the existence of remarkable aseptic and absorptive qualities of certain airs, but they pretty clearly indicate the climatic conditions most favorable for the development of these qualities. This knowledge, combined with that of the attested value of antiseptics and absorbents in the treatment of wounds generally, and that afforded by the researches of Koch, lead us to believe that in air possessing these qualities we may have a most valuable local application for diseased lungs. Regarding this air as a local application to an inflamed discharging surface, characterized by the presence of a specific germ, it should be remembered that the other climatic factors have an important bearing on the remedial effect of such an application.

1. Equability acts the negative part of preventing the irritation liable to ensue from sudden changes in the temperature of the application, and thus overbalancing the good effects of dryness.

2. Rarefaction of the air, by its effect on the vaso-motor system, tends to relieve any passive congestion of the lungs. By increasing the depth and number of the respirations it not only mechanically distends the weakened and diseased portions of the lungs, but brings them into contact with a greater amount of dry aseptic air. The secondary effect of this regular and continuous expansion is to permanently increase the chest capacity.

3. The greatest number of bright, cloudless days gives the greatest opportunity for out-door life and exercise, with a resulting augmentation in the amount of dry aseptic air inspired.

4. Wind- and sand-storms render the air irritating, and the respirations shallow, depressed, and irregular. Their absence has a negative value similar to equability.

5. Cold enhances the aseptic and stimulating qualities of dry air.

*Effect of Climate on General Condition of Patients.*—The climatic conditions described as the most conducive to the improvement of the general health are also to be found only in the high altitudes. Dryness, brightness, and rarefaction of the air and abundance of sunshine belong to all very high places. From among these a location should be selected where the remaining desirable qualities are found.

It is difficult for one who has never experienced the effects produced by coming from a low to a very high place, to understand the wonderful exhilaration that follows breathing this dry rarefied air. Those in health feel and enjoy the powerful tonic, almost intoxicating, effect, but not to the marked degree that the invalid does. It seems to supply a necessity in his case. Nor are the effects limited to a temporary stimulation, to be followed by a corresponding depression. Very soon his appetite is better, his digestion improves, the feeling of lassitude disappears, exercise becomes a pleasure, and he is able to thoroughly enjoy the out-door life to which he is invited by new scenes, sunny skies, and a bracing air. With the increased exercise there is a more rapid gain in weight and strength.

These are the usual effects in appropriate cases, the improvement being modified by, as well as modifying, the local part of the trouble.

While all observers are agreed that these are the ordinary results to be expected in appropriate cases, there are differences of opinion as to just how they are produced. Undoubtedly the strength of the circulation and the greater determination of blood to the periphery induced by the lessened atmospheric pressure favor greater functional activity of all the internal organs by relieving local passive congestions. The heart's action, which may at first be accelerated, is always stronger, and the respirations, at first more rapid, become deeper. Hence there is a more perfect oxygenation of the blood. (It is possible also that this attenuated air yields up its oxygen more readily than the denser air of low places.) With all of the internal organs relieved of venous engorgement, and the surface and lungs supplied with blood in a larger quantity, the conditions are most favorable for healthful activity of the organs engaged in digestion and assimilation, and the improvement of the general nutrition, as well as for the repair of the local damage to the lungs. The increased muscular and nervous energy, and the better work done by the excretory organs may also be attributed to a purer and more generous supply of blood.

The abundance of sunshine characteristic of high-altitude places, aside from permitting and encouraging much-to-be-desired out-door life, has a direct salutary effect upon the health and spirits of the invalid.

If the theory thus briefly outlined be the one accepted,

and the stimulus of the lessened atmospheric pressure upon the vaso-motor system be accredited with the chain of good results that ensue, it is evident that the two most important points upon which the physician should satisfy himself in each case before recommending a change are: Is the heart capable of promptly responding and readily adapting itself to an increased rarefaction of the air? If so, what elevation would be safe as well as efficient?

It should be remembered that an adaptability of the heart to a very high altitude may usually be acquired by gradually increasing the elevation, and an altitude entirely unadvisable, and even hazardous, at first, may become in time the one most desirable. In the past there has been a tendency on the part of physicians to advise or permit their patients to seek an altitude altogether too high to commence with. Experience has taught that elevations of three thousand feet to six thousand feet should include nearly all cases, with the greatest number in places of less than five thousand feet above the sea-level. Undoubtedly, if more caution was exercised in this regard, and greater care shown in selecting places as free as possible from sand- and wind-storms and sudden changes in the temperature, the tabulated clinical reports of the treatment of phthisis in high-altitude resorts would read even more favorably than they now do. The prevalence of these storms, and the marked variability of the temperature, so common in many high-altitude resorts, are always objectionable features, and many times are insurmountable obstacles to a residence in an otherwise healthful climate.

They lessen the number of days suitable for open-air pursuits, and even indoors no amount of precautions are sufficient to perfectly guard against their ill effects.

It would therefore appear that the requisites of a climate for pulmonary invalids are:

Altitude (3,500 feet to 6,000 feet).
Dryness (greatest possible).
Equability.
Greatest number of sunshiny days.
Greatest possible freedom from sand- and wind-storms.
Comparative coolness.

Possessing all of these attributes, there are still other factors which need only to be mentioned here, but which should have no light weight in influencing our estimation of a health-resort, viz., the sanitary surroundings, the hotel accommodations, the completeness of the change, and its attractiveness. If a city is selected, it should be one where the streets are wide, the houses far apart, and where the invalid need be deprived of none of his accustomed luxuries, comforts, and conveniences.

*Selecting a Climate.*—We have thus briefly presented our idea of the best climatic treatment for phthisis, and of the method by which a high-altitude climate produces its beneficial effects, and have indicated the most important attributes which should characterize such a climate. While altitude should vary according to the individual requirements and adaptability of each case, the other factors mentioned are desirable in all cases.

The so-called "ideal climates," or climatic specifics for phthisis, do not exist. Not only that, but it is certain that in the most favored localities (climatically) consumption may occur as the result of bad hygienic surroundings, mode of living, habits, etc. A residence in none provides immunity from this dreaded malady, or promises a certain cure for all cases. Neither is it possible to find with each different altitude suitable for different cases a perfect combination of all the other climatic factors most desirable. We must choose that place which, being the proper altitude, most nearly fills the other requirements. For example, wind, dust, and variability belong, to a greater or less extent, to almost all very high places; yet among places of equal altitude there is a marked difference in these respects well worth our consideration in estimating the comparative merits of a resort.

A critical study of each climate and of each case will enable us to more perfectly adapt the one to the other, and we may then confidently expect better results than by the plan so much in vogue at present of recommending a favorite resort in all cases, simply on account of its popularity. In deciding upon a given climate it is believed that reliable statistical data should rank first, clinical observations second, and the opinions and impressions of those who may be prejudiced advocates of a certain resort last in importance in influencing our conclusions.

*Contra-indications.*—The contra-indications to the employment of a high-altitude residence are based on the inability of the patient to bear and respond to the stimulus of the rarefied air to the vaso-motor and respiratory systems.

The success of this treatment depends upon the patient having some general recuperative power, a sufficient amount of healthy lung-tissue, and a heart in which degenerative changes have not started. Large amount of lung structure involved, extensive pleuritic adhesions, fatty or parenchymatous degeneration of the heart would be contraindications; while the age, constitution, and temperament of the patient, amount of emaciation, fever, etc., would guide us in estimating the vital powers. Too often the change is attempted as a *dernier ressort.* The fatal issue is sometimes hastened in those cases known to be hopeless which are sent to the altitudes for relief.

A clear comprehension of the *rationale* of the high-altitude treatment, accuracy in diagnosis, sound judgment in estimating the general and local recuperative powers in each individual case are worth more than any fixed rules that shall have a general application. But in all cases of phthisis that are remediable or curable by any treatment, it is believed, unless there be positive contra-indications, that a residence in a well-chosen high altitude is to be advised.

*In Regard to Salt-water Bathing.*—Many strumous patients have derived much benefit from residence near the sea and salt-water bathing; and the medical profession have long recognized the value of this plan of treatment in such cases. Its success in strumous lung troubles has doubtless given the coast much of its reputation as a resort for the phthisical. The majority of cases of caseous phthisis, chronic bronchitis of children, and almost all scrofulous diseases of the respiratory tract are unquestionably favorably influenced by sea-air and sea-water, notwithstanding the bad climatic surroundings in other respects. But is it not reasonable to hope for a more certain and a greater improvement where to this treatment is added all of the advantages of a high-altitude resort. Impressed with this idea the writer has been engaged for some time in collecting notes of appropriate cases at The Great Salt Lake, Utah, where such a combination apparently exists. These notes, when complete, will be submitted to the profession.

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COLORLESS STOOLS IN UNJAUNDICED PERSONS.—From a study of this subject Dr. Walker concludes: 1. That the form of hydrobilirubin, the coloring matter of the fæces, depended on the mutual reaction of the bile and pancreatic fluid, under the influences met with in the intestinal tract. 2. That in disease a deficiency of pancreatic fluid would, equally with a deficiency of bile, cause the pathological condition of colorless or clay-colored stools. 3. That as, according to the most recent physiological researches, that portion only of the colored constituents of the bile which had been converted into hydrobilirubin was excreted in the fæces, while the unchanged bilirubin, and biliverdin were absorbed, it followed that if hydrobilirubin could not be produced without the aid of the pancreas, that organ must have an important rôle in regulating what proportion of the bile entering the intestines should be absorbed and what thrown off in the fæces. —*The British Medical Journal.*

# Clinical Department.

## CASTOR-OIL AS A MENSTRUUM FOR COCAINE.

By S. MITCHELL, Jr., M.D.,

HORNELLSVILLE, N. Y.

The use of cocaine dissolved in castor-oil may not be to many such a novel method of employing this valuable agent as it was to me. I do not remember, however, to have heard of its previous use, and the idea only occurred to me in the dire extremity when seemingly I had exhausted all the remedies that were at all applicable, and my patient was "nothing better."

I trust the publication of the following details of the case wherein I first employed the above remedy may be of interest and perhaps profit to others.

Mr. H——, aged fifty, whom I was treating for chronic aural catarrh, was suddenly attacked with herpes zoster, covering the whole left side of the head from the temporal ridge to the occiput. Nearly the first vesicle to form was in the conjunctiva of the upper lid of the left eye. It was attended with much pain, great congestion of the whole palpebral and ocular conjunctiva, contraction of the pupil, and sluggishness of the iris. Atropine and cocaine were employed during the whole course of the disease, and the eye thus kept quite comfortable, until the disappearance of the vesicles from the head. As they healed, leaving deep and painful cicatrices, the one in the conjunctiva healed also, leaving a hard cicatrix that at once assisted in forming an ulcer in the lower margin of the cornea, as large as a kernel of wheat, that steadily grew deeper and more painful, despite all remedies employed. At the end of a week there was well-marked chemosis, together with deep-seated and constant pain. At this juncture it occurred to me to try a drop of castor-oil in the eye, if possible by its use to mitigate the terrible rasping the hard cicatrix was inflicting upon the cornea; then the happy idea suggested itself to combine cocaine with the oil. A five per cent. solution was made, dissolving the cocaine in the oil by means of gentle heat. A few drops of this were instilled into the eye, with almost magical effect. Pain was at once greatly mitigated, the chemosis disappeared, the cornea cleared up, the ulcer began to heal, and my patient grew happy and smiling. All other remedies were discontinued, recovery being rapid and complete.

## A CASE OF INTESTINAL OBSTRUCTION.

By DEWITT C. RODENHURST, M.D.,

PHILADELPHIA, N. Y.

On May 26th I saw William R——, aged two and a half, who was vomiting and had had no movement of the bowels for two days. I gave calomel and bicarbonate of soda as a cathartic, and bismuth and oxalate of cerium for the vomiting, but without result. On the following day the symptoms were the same. I ordered ten grains of calomel, which controlled the vomiting, and then gave an enema with an eighteen-inch rectal tube, and am positive that the tube went sixteen inches into the bowel, as I was able to trace it through the abdominal wall. With this enema came quite a quantity of greenish mucus. I repeated the enema in four hours with the same result, and I now became convinced that there was intestinal obstruction. The next morning Dr. Abell, of Antwerp, saw the case with me, and confirmed my diagnosis. We then put the child on ten-drop doses of tincture of opium, per rectum, every four hours, giving at the same time about one ounce each of beef-extract and milk, and once in about twelve hours giving the large enema with the rectal tube. There was no vomiting this day. The same treatment was continued for two days, and condition remained about the same.

On May 30th the child began to show signs of failure, and on the following day Dr. Willis E. Ford, of Utica, N. Y., was called, with an idea of surgical interference, as it had become evident that the child must die without.

Dr. Ford brought with him a Bergeon apparatus for gaseous enema, and proposed inflating the intestines with carbolized, sulphuretted hydrogen gas, after the method introduced by Dr. N. Senn, of Milwaukee, Wis.

The gas-bag of the Bergeon apparatus holds five gallons. It was filled, the child being well under chloroform, and the gas was gradually pumped into the intestine, the anus being firmly held to keep it from escaping. The large intestine soon being inflated, the gas began to pass the ileo-cæcal valve, and in a brief space of time there was an audible sound, as of something giving way.

We suggested that the obstrution, which without doubt was intussusception, was removed, the anus was let go, and following the escape of the gas there came fæces of such a character as to assure us the obstruction was removed.

The child was kept under the influence of morphine for forty-eight hours, and then given a large dose of castor-oil, after which followed a natural stool. From May 28th till the operation the temperature of the child ranged from normal to 100⅘° F.; the pulse ranged from 90 to 120. There was no vomiting after the ten-grain dose of calomel was given till the 30th, and then the vomited material was only what the child had been allowed to take. There was never any tenderness or bloating of the abdomen. There was no tumor to be felt.

During all the time the child, when not asleep, would ask for drink, answer questions, notice playthings, and in no way seemed sick except that he wanted to lie in bed and would take no nourishment. Before his sickness his habits had been the same, except that he had developed the idea of climbing. This, I believe, is the first time this operation has been performed in New York State, as I can find no record of it before.

## A YOUNG LIVING FŒTUS.

Dr. T. T. Kirk, of Pittsburg, Pa., writes: "I had a case similar to Dr. J. L. Nascher's, reported in The Medical Record of June 15th. My patient, Mrs. C——, aborted October 15, 1888. She menstruated November 15, 1888. I was called hurriedly on May 2d, and found a head presenting. The next pain brought a small living fœtus, with closed eyes, no hair, finger- or toe-nails. In a few seconds it gasped and cried. The nurse wrapped it in cotton and fed it on sweetened water. Allowing one week after the menses began, the child was five months and ten days old. It was born before 5 P.M., and lived till after 3 P.M. the next day—over twenty-two hours."

A Question of Immense Importance.—The General Medical Council of Great Britain seems to be a body of great importance, or at least so considers itself. Among other mighty subjects engaging its attention, at a recent meeting, was that of precedence as between its president and those of the Colleges of Physicians and of Surgeons, respectively. The question had arisen lately in connection with a work in which they were jointly engaged. The Council appointed a deputation to wait upon the Lord President of the Privy Council in reference to the matter, but the result of their interview proved inconclusive. It was therefore resolved that the President of the Council be requested to frame, together with the solicitor to the Council, a petition to the Queen to request Her Majesty to determine the order of precedence of the President of the Medical Council and the heads of the other bodies concerned in the administration of the medical acts.

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## THE FATHER AND THE RACE.

A CONTROVERSY has been going on in *The Forum* regarding the relative importance of woman in influencing the development and character of children and of the race. Professor Lester Ward, reasoning from various zoological data, concludes that woman is the race and that man is only a necessary adjuvant, who performs the duties of impregnating the ovum and supporting the progeny. All moral, intellectual progress comes through the woman. Hence it is inferred that the most essential duty of modern civilization is to promote the moral and intellectual welfare and progress of the mothers.

This chivalric view is directly antagonized by Mr. Grant Allen, who, by a like appeal to zoology and embryology and the facts of heredity, tries to prove that woman is the appanage and man the chief factor of existence. Woman, he says, is simply or mainly set apart for purposes of perpetuating the race. The duties of maternity make too severe a strain upon her energies to enable her to compete with man in those labors which advance knowledge and improve the condition of mankind.

We think there are very few who will not agree in the main with Mr. Allen's argument. Without discussing it now, however, we wish to bring to our readers' attention an interesting contribution to one phase of this subject, in the shape of a monograph on the influence of the father upon the development of the fœtus, by Dr. Félice La Torre.[1]

The general tenor of Dr. Torre's work is to show that a decided preponderance of influence upon the child is exercised by the father. There is, he says, no single thing which so influences the health and development of the fœtus as the constitutional condition of the father. To have children strong and well, it is necessary that the father be sound in health; the mother may be an invalid or not. Quoting Boinnet, he adds, "I have shown by my tables of family histories that the axiom, *Pater est quem morbi filiorum demonstrant*, has more of certainty than the adage, *Pater est quem nuptiæ demonstrant*." Dr. Torre's concluding sentence is "*Talis pater, talis filius.*"

Dr. Torre's views are supported by a record of one hundred cases, which he analyzes and tabulates.

[1] Des conditions qui favorisent ou entravent le développement du fœtus. Influence du père. Recherche clinique, par le Dr. F. La Torre. Paris: Octave Doin, 1888.

While his deductions are not absolutely conclusive, they appear to show that if, when a marriage is contracted, the father is weak in body or suffering from a constitutional ailment, there is less chance of the children being vigorous than if the mother were in such condition.

While Dr. Torre's investigations cover chiefly the subject of the influence of the father upon the physical condition of the child, they supplement in a measure the studies of De Candolle, who showed that distinctive traits are more often transmitted by fathers than mothers; more particularly the higher intellectual faculties.

## CHEMICAL STRUCTURE AND PHYSIOLOGICAL THERAPEUTICS.

THERE is no field of medical activity at present more interesting and fruitful than that which concerns itself with the application of new chemical compounds to therapeutics. The work here is not purely an empirical testing of miscellaneous drugs, but is conducted, in a considerable measure, on carefully laid-out plans based upon chemical and physiological knowledge.

Dr. Lauder Brunton has recently delivered a series of lectures upon the relationship between chemical structure and physiological action, in which he has shown the guiding principles adopted or to be adopted in the search for new remedies.

Dr. Brunton has gone over a very wide field, for he passes in review a good many elementary facts of chemistry as preliminary to the consideration of his subject proper. We cannot attempt, therefore, to give any systematic summary of his lectures, but only to refer to some of the more interesting points that he brings out.

The causes of disease are first considered. The lecturer dwells at some length upon microbes, microbic ferments, ptomaïnes, and leucomaïnes. He shows that microbes often cause morbid phenomena, not by their direct action but by certain ferments which they produce, or through the poisons known as ptomaïnes.

The fact that ptomaïnes are present in decaying meat would lead one to suppose that poisoning from this source would not be infrequent. Its comparative rarity is thought to be due to the fact that mixed bacillary products are often very poisonous, while pure single cultures are not. This would explain the especially poisonous character of meat, in which if diseased there may be the products both of a pathogenic and a putrefactive bacillus.

Dr. Brunton is inclined to accept the views of Roux and Yersin, that the diphtheritic poison belongs to the ferments and can, therefore, act even after the microbe which produces it is killed.

After giving a short history of the ptomaïnes, the lecturer says that a number of them belong to the compound ammonias. The most common of the ptomaïnes, viz., choline, neurine, and muscarine, belong to this class; and they all have one common property, namely, that of stimulating glandular action and involuntary muscle fibres; their action is antagonized by atropine, and it is suggested that this drug be used in poisoning from tainted meat and fish.

One prolific source of disease is microbic action and chemical decomposition in the intestine. In the treatment of disease from this cause there are three indications — to eliminate by purgatives, to antagonize by

antiseptics, and to starve out the bacteria by changes of diet.

The search for intestinal disinfectants has so far not been very successful. Brunton quotes Pellicani as saying that substances containing a diphenyl nucleus are less poisonous and more antiseptic than those containing a single phenyl nucleus. The use of sulphates with phenol makes the latter less poisonous, while the sulphonic compounds, like aseptol, and the compound of beta-naphthol and salicylic acid, known as betol, are suggested as likely to be very efficient. In the matter of starving out bacteria, the lecturer commends the plan of stopping milk altogether in infantile diarrhœa, and he discountenances farinaceous foods in typhoid fever.

Following up the subject of microbes and disease, the treatment of phthisis by antiseptics is considered. Without laying great stress on this subject, he speaks favorably of the principle of gaseous injections, and recommends the use of helenine, and of phenyl acetic and phenyl propionic acids, because of their specially destructive influence upon the micro-organism.

When microbic action takes place in the blood and tissues, as in anthrax, tetanus, rabies, diphtheria, and certain other infectious diseases, we cannot expect to reach the trouble by antiseptics. In such cases purgation, diuresis, and washing out the system with copious draughts of water ought to be resorted to.

Dr. Brunton discusses in an interesting way the subject of preventive inoculations, in which he thoroughly believes. He cites the work of Pasteur for rabies and anthrax, that of Chantemann and Vidal for typhoid fever, that of Roux and Chamberlain for septicæmia, and that of Roux and Yersin for diphtheria.

Dr. Brunton discusses the relation of chemical structure to antiseptic power, and also to analgesic and antipyretic action. The subject is too much involved in chemical details to enable us to present it here. We quote, however, his final words with regard to the prospects and dangers of analgesics:

"As the ways in which methyl may be combined with aromatic bodies are almost numberless, we may expect before long a great increase in the number of analgesics, and not improbably some new ones may far surpass in their power to relieve pain anything that we as yet possess. Before passing from this subject, however, I must indicate a possible source of danger from the continued employment of such analgesics.

"We know that the continuous employment of narcotics, such as morphine or chloral, is apt to grow into a habit, and the consequences may be very deleterious to the mental functions. A similar habit, we know, may be established by the use of cocaine, and it is possible that something similar may occur in the case of other analgesics. But there is another possibility which I wish to indicate in addition to this, namely, that just as the brain may become deteriorated by the use of chloral or morphine, so the cord may possibly be injured by the use of analgesics. I have already mentioned that Dr. Cash and I observed in frogs symptoms resembling those of disseminated sclerosis, or of locomotor ataxy in man, and Batten and Bokenham have noticed that antipyrin may produce in frogs a condition like that of spastic paralysis. Cash and I tried to produce symptoms of permanent disease of the spinal cord in frogs by keeping up the poisoning for some time. We were unsuccessful in the attempt, as the symptoms always passed off when the poison was eliminated, but still the conditions in our experiment were very different from those which would occur from the prolonged use of analgesics by a patient, inasmuch as the treatment of the latter might continue for weeks, months, or years, whereas in our experiment time could be counted by days."

## MITHRADATISM.

MEDICAL writers have for some time been conscious that medical literature needed a new word to express the artificial production of immunity against disease. When small-pox was the only infection which could be avoided by preparing the system against it, the term vaccinate and vaccination answered very well. But we cannot say that we "vaccinate" against rabies, or anthrax, or, in other words, we have no general equivalent for that verb.

We believe that it is Professor E. Ray Lankester who has come forward in this emergency and proposed the term "mithradate" and "mithradatism." This word is taken from the name of the Phrygian King Mithradates, who lived about 100 B.C., and who is credited with having so thoroughly saturated his system with poisons that he was proof against any of them.

Accepting Professor Lankester's suggestion, we could speak of Pasteur as mithradating patients bitten by rabid dogs, or mithradating sheep against anthrax; and we could speak of the unsuccessful attempts of Ferran to mithradate against cholera, and of Freire's firm belief in the mithradating power of his yellow-fever cultures. The name of the process would be "mithradatism;" and the name of the thing, corresponding with "vaccine," would be "mithradatine."

We submit Professor Lankester's new word to the suffrages of our readers, only regretting that he could not have found some ancient and toxibund Phrygian who had a little more euphonious name.

# News of the Week.

THE LEGAL RIGHT TO DISCIPLINE PHYSICIANS.—Under this title the *Sun* gives a review of a case which has recently much occupied the attention of English physicians. The plaintiff was a physician named Allbutt. The defendant was the General Council of Medical Education and Registration of the United Kingdom of Great Britain and Ireland. The Council is a public corporation empowered by law to keep a register of qualified medical practitioners, and to cause it to be printed and sold, so that the public may be correctly informed what physicians are and are not on the list. Only those doctors who are duly registered are entitled to sue for their charges, or to give certain medical certificates provided for by law. The council is expressly authorized to erase from the register the name of any physician who shall be convicted of any crime, or who shall, after due inquiry, be adjudged by the council "to have been guilty of infamous conduct in any professional respect." Such erasure, however, does not absolutely prevent the doctor whose name is erased from practising medicine. He is debarred from collecting his bills by suit, and from giving medical certificates under

the statute; but he may still be employed by patients, or called in consultation by other physicians. The name of Dr. Allbutt was on the register, and was erased by the General Council upon the ground that he had been guilty of infamous conduct as a professional man in causing to be published and sold a certain book, the publication and sale of which was detrimental to public morals. The plaintiff asked the court for a writ of mandamus commanding the Council to restore his name to the register, and also sought to recover damages against the Council for libel, because in its published minutes the fact of the erasure and the reason therefor had been stated. The case thus presented two questions: First, whether a physician whose name has been stricken off a list of medical practitioners by the corporation authorized to keep such list can compel that body to restore his name, when it was removed for a cause and in the manner prescribed by law; and, secondly, whether it is libellous to publish a statement that the name has been erased, together with the reason for such erasure. The Court of Appeal has answered both questions in the negative. In this connection, a Massachusetts case of somewhat similar character is cited. Dr. Ira Barrows was expelled from the Massachusetts Medical Society for "gross immorality," in having broken a promise to Dr. Benoni Carpenter, to whom he had sold his practice at Pawtucket, for a large sum. The promise appears to have been an assurance that he would not resume practice in the same locality; but he returned to Pawtucket, and entered upon professional work there again in the course of a year. An article relating to his expulsion was published in the *Boston Medical and Surgical Journal* by Luther V. Bell, and the doctor thereupon sued Bell for libel. Chief Justice Shaw held that the suit could not be maintained.

Medicine and the Stage.—In Mr. Henry Irving's speech at the festival dinner to Sir Morell Mackenzie, of the Golden Square Hospital for Diseases of the Throat, he said that "there had always been a deep sympathy between actors and doctors, but he did not know why, unless the doctors regarded the players as a little mad. Actors were on the free list of the doctor's skill."

The Effect of Continence on Adults.—Dr. Brown-Séquard says: "It is known that well-organized men, especially from twenty to thirty-five years of age, who remain absolutely free from sexual intercourse or any other causes of expenditure of seminal fluid, are in a state of excitement, giving them a great, although abnormal, physical and mental activity."

Brown-Séquard's Testicular Injection. — Dr. Brown-Séquard gives, in *The Lancet*, the following account of the technique of his injections: "I have made use, in subcutaneous injections, of a liquid containing a small quantity of water mixed with the three following parts: First, blood of the testicular veins; secondly, semen; and, thirdly, juice extracted from a testicle crushed immediately after it has been taken from a dog or a guinea-pig. Wishing in all the injections made on myself to obtain the maximum of effects, I have employed as little water as I could. To the three kinds of substances I have just named, I added distilled water in a quantity which never exceeded three or four times their volume. The crushing was always done after the addition of water. When filtered through a paper filter, the liquid was of a reddish hue and rather opaque, while it was almost perfectly clear and transparent when Pasteur's filter was employed. For each injection I have used nearly one cubic centimetre of the filtered liquid. The animals employed were a strong, and, according to all appearances, perfectly healthy dog (from two to three years of age), and a number of very young or adult guinea-pigs. The experiments, so far, do not allow of a positive conclusion as regards the relative power of the liquid obtained from a dog and that drawn from guinea-pigs. All I can assert is that the two kinds of animals have given a liquid endowed with very great power. I have hitherto made ten subcutaneous injections of such a liquid—two in my left arm, all the others in my lower limbs—from May 15th to June 4th last. The first five injections were made on three succeeding days with a liquid obtained from a dog. In all the subsequent injections, made on May 24th, 29th, and 30th, and June 4th, the liquid used came from guinea-pigs. When I employed liquids which had passed through Pasteur's filter, the pains and other bad effects were somewhat less than when a paper filter was used."

German Physicians Adopt a Code of Ethics.—On June the 24th the seventeenth Congress of German Physicians met at Brunswick, and passed the following resolutions: "1. Every kind of public laudation, whether it proceeds from the physician in question himself or from others, and continued advertising in public papers are to be reprobated. 2. The designation 'specialist,' for puffing purposes, is to be reprobated. 3. The public offering of medical assistance gratis, underbidding in concluding contracts with sick societies and the like, offering advantages of any kind to a third person in order to procure practice, are inadmissible. The designations 'Klinik' and 'Poliklinik' (hospital) belong exclusively to institutions which serve the purposes of instruction in connection with universities. 4. The ordering and recommending secret remedies are inadmissible. 5. Any attempt of any kind on the part of a physician to intrude upon the practice of another is dishonorable, especially in the case of one who has acted as substitute or in consultation. A practitioner must by no means undertake the treatment of the case without the express assent of the previous physician. A specialist called in for a definite part of the treatment must strictly confine himself to that. 6. No physician is at liberty to make disparaging remarks to others about another physician."

The Pennsylvania State Medical Society has postponed its annual meeting until next year.

Abolishing the Scottish Medical Faculties.—A Member of Parliament has introduced a resolution to abolish the Faculties of Medicine in the Scottish Universities.

Flags to Announce Confinements.—French medical journals state that a flag will be displayed at the Medical Department of the University of Paris whenever a confinement is in progress in the Obstetrical Ward. The color of the flag will indicate the kind of confinement: a blue flag indicating that the confinement is a simple one, a yellow flag that the labor is difficult, and a green flag that an operation is necessary.

His Royal Highness the Duke of Bavaria, M.D., has just done his one thousandth cataract operation. We should like to know his per cent. of failures.

Sir Andrew Clark recently gave a reception to Dr. Tholozan, physician to the Shah of Persia.

The American Rhinological Association will hold its Seventh Annual Meeting at Chicago, August 28th, 29th, and 30th. The Committee on the Examinations of the Inmates of Insane Asylums will make their report on "The Relations of Rhinal Inflammations to Mind Affections" at this session.

Dr. DeWolf has resigned as Health Officer of Chicago, after thirteen years of most efficient service.

The Death of Dr. Charles Elam, a distinguished London physician and writer, is announced. Dr. Elam was in his sixty-fifth year.

Trusteeing Drunkards.—The German Medical Congress has recommended that drunkenness be recognized as a reason for placing a person under trustees.

The daily papers announce the following: Tozoni, the sculptor, has finished an excellent bust of the late Dr. John Swinburne, the philanthropist.

Dr. Grissom Acquitted.—The trial of Dr. Eugene Grissom, Superintendent of the Asylum for the Insane near Raleigh, N. C., before the Board of Directors, has been concluded. The charges were preferred by Dr. Lion H. Rogers, Assistant Physician, and John W. Thompson, Steward, and were of gross immorality, cruelty, and misappropriation of property of the asylum. The investigation consumed four weeks, and Dr. Grissom was acquitted on every charge, the vote being 6 to 2, except as to the charge of immorality, and on that it was 5 to 3. The sensation of the trial was the introduction by Grissom of a compromising letter written by Dr. Rogers to Miss May Mendenhall, a former female attendant.

Alonzo Clark Scholarship.—By the will of the late Alonzo Clark, M.D., LL.D., it was placed in the power of the Faculty of the New York College of Physicians and Surgeons to bestow a scholarship, with an income of about nine hundred dollars a year, for the purpose of promoting the discovery of new facts in medical science. This has been bestowed, for three years from October 1, 1887, upon T. Mitchell Prudden, M.D., of New York City.

The American Association of Obstetricians and Gynecologists will hold its next annual meeting at the Burnett House, Cincinnati, O., on Tuesday, Wednesday, and Thursday, September 17, 18, and 19, 1889. No formal invitations will be issued to non-members, but the Association extends an invitation to all members of the profession who may feel interested in this branch of medical work to attend the meeting and participate in the proceedings. The papers and discussions will embrace subjects pertaining to obstetrics, gynecology, and abdominal surgery.

Dr. Lewis A. Sayre has recently been elected an honorary member of the St. Petersburg Medical Society, one of the largest and most important of the Russian societies. Dr. Sayre returned a few weeks ago from his trip to the Hot Springs of North Carolina, much improved in health.

Execution by Electricity.—A London cable despatch says: The investigation in New York in the case of the murderer Kemmler, as to whether or not electricity can be relied upon to cause a prompt and painless death, is being watched with considerable interest on this side of the water. A correspondent of the *Pall Mall Gazette* writes to that paper to say that, whatever doubt exists in America, there is hardly room here to question the certainty of the results of electricity scientifically applied. Killing, he says, by electricity, has been reduced to absolute scientific certainty by the experiments of Dr. B. W. Richardson in his model abattoir at Croydon.

Chloroform.—Some time ago the Hyderabad Commission of India made a report extremely favorable to the use of chloroform as an anæsthetic. There having been some criticism made upon this, the Nizam of Hyderabad has telegraphed to *The Lancet* offering to place the sum of $5,000 at the disposal of *The Lancet* for the purpose of sending commissioners to India to investigate the matter. The Nizam shows his faith in the anæsthetic for his Indian subjects.

Dr. John B. Roberts has been elected Professor of Surgery in the Woman's Medical College of Philadelphia, to succeed Dr. W. W. Keen, resigned.

Dr. Charles B. Nancrede, of Philadelphia, has just been elected Professor of Surgery in the University of Michigan, Ann Arbor.

Bologna, following the initiative of Milan, opened, on June 30th, an Instituto Anti-rabbico, or institution for the treatment of rabies on the Pasteur method. The King, the Prime Minister, and the various civic and scientific bodies, as well as the townsfolk of Bologna, contributed the requisite funds. Every considerable Italian city will soon, it is anticipated, be provided with an institution of the kind.

The American Public Health Association will hold its Seventeenth Annual Meeting at Brooklyn, N. Y., on October 22, 23, 24, and 25, 1889. The Executive Committee have selected the following topics for consideration at said meeting: 1. The Causes and Prevention of Infant Mortality. 2. Railway Sanitation. (*a*) Heating and ventilation of railway passenger coaches. (*b*) Water-supply, water-closets, etc. (*c*) Carrying passengers with communicable diseases. 3. Steamship Sanitation. 4. Methods of Scientific Cooking. 5. Yellow Fever. (*a*) The unprotected avenues through which yellow fever is liable to be brought into the United States. (*b*) The sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever. (*c*) The course to be taken by local health authorities upon the outbreak of yellow fever. 6. The Prevention and Restriction of Tuberculosis in Man. 7. Methods of Prevention of Diphtheria, with Results of such Methods. 8. How far should Health Authorities be Permitted to Apply Known Preventive Measures for the Control of Diphtheria. 9. Compulsory Vaccination. 10. Sanitation of Asylums, Prisons, Jails, and other Eleemosynary Institutions. Papers upon miscellaneous sanitary subjects not included in the above list will be received by the Executive Committee, subject to the requirements of the by-laws. The secretary is Dr. Irving A. Watson, of Concord, N. H.

# Society Reports.

## AMERICAN OPHTHALMOLOGICAL SOCIETY.

*Twenty-fifth Annual Meeting, held at the Pequot House, New London, Conn., July 17 and 18, 1889.*

FIRST DAY, WEDNESDAY, JULY 17TH—MORNING SESSION.

THE Society was called to order by the President, DR. WILLIAM F. NORRIS, of Philadelphia.

DR. CHARLES STEDMAN BULL, of New York, read the first paper, entitled

AN ANALYSIS OF NINETY CASES OF SIMPLE CHRONIC GLAUCOMA, WITH SPECIAL REFERENCE TO THE EFFECTS OF IRIDECTOMY UPON THE ACUITY OF VISION AND THE VISUAL FIELD.

Detailed histories of the ninety cases were presented, and the following conclusions formulated:

In endeavoring to draw some rational conclusions from the study of ninety cases, it seems wise to begin with a quotation from Priestly Smith, to whom ophthalmologists owe so much of their knowledge of the pathogeny and pathology of glaucoma.

1. In considering the expediency of an operation in chronic glaucoma, he says: "In every case of chronic glaucoma, the responsibility of advising an operation is a heavy one and should on no account be undertaken without a full explanation to the patient or his friends of the almost positive certainty of blindness on the one hand and of the uncertainties which beset the operation on the other. Having regard to the age of the patient, the impossibility of great benefit, and the possibility of a painful and accelerated progress, the prudent surgeon will only operate on the express desire of the patient to receive the only possible chance of benefit, however small it may be." Armed with the preceding precaution, it seems to be our duty to operate in cases of chronic progressive glaucoma, and the earlier the better.

2. If the disease in a given case seems to be stationary and is still in the primary stage, and if it be possible to test the vision and the visual field at short intervals, delay in operating is permissible, but a weak solution of eserine or pilocarpine should be used daily, merely as an aid in controlling the course of the disease. The examination of these patients should be at short intervals, and should invariably include tests for visual acuity and the careful examination of the visual field.

3. If the disease exists in both eyes but with useful vision in both eyes, the eye in which the disease is the more advanced should be operated on without delay; and the surgeon will be guided in his treatment of the fellow-eye by the result of the operation on the first eye.

4. To insure the best result, the incision should be made well in the sclerotic with a narrow cataract-knife or a broad lance-knife, and the entire iris, from one end of the incision to the other, should be carefully torn or excised from its insertion.

5. The most carefully performed iridectomy by skilful hands is sometimes followed by rapid loss of what sight still remains; sometimes partial, but, unfortunately, sometimes total.

6. A successful result is, in the majority of cases, more likely to follow the operation if it is performed early in the course of the disease, but the maintenance of the existing degree of vision even in these cases is not invariable.

7. As regards the question of symmetry, it is probable that in the large majority of cases, probably as much as eighty per cent., the disease is sooner or later present in both eyes, and a careful study of the cases seems to establish the fact that there can be no specific interval of time which insures the second eye against an attack.

8. If the patient is old and feeble and one eye is still free from disease for a year or more after the other eye has become affected, it may be considered prudent to avoid an operation on the affected eye, as it is probable that the unaffected eye may remain free during the remainder of the patient's life.

9. The condition of the field of vision is no constant guide either in forming a prognosis as to the progress of the disease or in deciding as to the time of operation.

10. The acuity of vision bears no constant relation to either the success or failure of the operation.

11. The anterior chamber is usually shallow, is occasionally entirely absent, but is often apparently normal in depth. The condition of the chamber gives no reliable hint as to the state of the vision or the visual field, nor any indication as to prognosis.

12. The appearance and motility of the iris appear to have some bearing upon the prognosis, though perhaps not to the extent believed by Nettleship. The latter states that in the cases in which the iris reacts rapidly to eserine the operation proves successful. This has not always been the experience of the reporter, but in the majority of the cases in which eserine caused rapid contraction of the pupil the visual acuity was fairly good and the field was not seriously limited.

13. The depth of the excavation in and the color of the optic disk seem to have no close connection with the defective vision or with the limitation of the visual field, nor do they offer any constant guide as to prognosis or to the effect of an operation upon the progress of the disease.

14. The condition of the intra-ocular tension is a very uncertain guide in deciding the time for operating. It may be normal, or increased, or even diminished. It does not even seem to bear any constant relation to the degree of visual acuity or to the state of the visual field. The steady maintenance of the increased tension, however, without any diminution, almost invariably indicates the necessity for an immediate operation, and this necessity is especially indicated if the tension is continually on the increase.

15. The health and age of the patient exert a decided influence upon the effect of the operation. Any marked evidence of senility is distinctly unfavorable to operation.

DISCUSSION.

DR. H. KNAPP, of New York: During the past nineteen years I have operated on six hundred and seventy cases of glaucoma, two hundred and twenty-six of which were cases of chronic glaucoma. I think that the prognosis may be a little more favorable than has been indicated by Dr. Bull. I have had four cases in which malignant disease followed operation for chronic glaucoma. I do not agree with the author as to the advisability of the continued use of pilocarpine or eserine in those chronic cases where operation seems doubtful. I advise its use when there are recurrent symptoms. In prognosis I am guided a great deal by the condition of the iris. My operations have been done with the lance-shaped knife. I consider it of great importance to carefully reduce the edges of the coloboma, not only by external pressure but also by the use of the blunt probe. I am also careful not to make the operation too peripheric. Peripheric wounds are more liable to cystoid scars.

DR. EMIL GRUENING, of New York, read a paper entitled

IRIDECTOMY IN GLAUCOMA.

The speaker classified the different forms of glaucoma under the following heads: 1, Acute inflammatory; 2, chronic inflammatory without visible degenerative changes in the iris; 3, chronic inflammatory glaucoma with visible degenerative changes in the iris; 4, simple glaucoma; 5, intermittent glaucoma; and described cases illustrative of these different varieties.

DISCUSSION.

DR. S. O. RICHEY, of Washington: I do not believe simple chronic glaucoma to be entirely a local affection. I think that it is a local expression of a cause to be looked for in the nervous system. I have used eserine with satis-

faction in the early stages, but I support it by galvanism applied to the cervical ganglia. In some cases this will enable us to avoid operation.

Dr. Samuel Theobald, of Baltimore: I have met with one case in which an attack of pronounced acute glaucoma was cut short by the use of eserine.

Dr. C. S. Bull, of New York: Eserine is frequently used in too strong solution. A solution of half a grain to the ounce may cause iritis after a single instillation. I never use a stronger solution than this. I often use one as weak as one-tenth of a grain to the ounce.

Dr. B. Alexander Randall, of Philadelphia: I can confirm the remarks in regard to the value of weak solutions. In one case of severe absolute glaucoma a solution of one-eighth of a grain to the ounce was entirely successful in relieving the pain. It has been used steadily for three years with no recurrence of the severe symptoms, and without the intervention of any inflammatory trouble.

Dr. S. D. Risley, of Philadelphia: In experimenting with weak solutions of eserine I have found that a distinct effect was experienced from a solution as weak as one-thirtieth of a grain to the ounce. If this was applied three times a day, it would in two days cause distinct browache. I have seen benefit from weak solutions where stronger solutions failed to give relief.

Dr. Henry D. Noyes, of New York: One point to which my attention was called many years ago is that in certain instances of evident glaucoma, with a large amount of refractive error, it has seemed that the aggravation of the glaucomatous disease has been dependent upon the accommodative strain. In operating I have gradually withdrawn from the extremely peripheral place of incision. I prefer to come closer to the border of the cornea than some do. This involves less risk and is easier of performance.

Dr. Samuel Theobald, of Baltimore: My experience tends to convince me that astigmatism, and particularly astigmatism against the rule, is frequently the cause of glaucoma.

Dr. Arthur Mathewson, of Brooklyn: In one case of glaucoma in which iridectomy had been done without averting the progress of the disease, a large injection of strychnia caused a decided improvement of vision, which continued. I have used it in other cases with good effect.

Dr. Emil Gruening, of New York, read a paper entitled

THE USE OF THE CURETTE IN ANTERIOR TRACHOMA.

The speaker, after referring to the various measures proposed for the relief of this condition, described an operation which he had employed in eleven eyes during the past two years. A six per cent. solution of cocaine was first instilled. The surface of the cornea and the vessels present were then scraped away with a gouge-shaped instrument, and the vessels followed well on to the conjunctiva. The eye is then washed with boric-acid solution, and warm compresses applied for four or five days. In three cases new vessels formed, and the operation was repeated. The ultimate result in all the cases was highly satisfactory. In old and protracted pannus this operation may be recommended for its directness, simplicity, and efficacy.

DISCUSSION.

Dr. S. B. St. John, of Hartford: I have used this operation in one case with the highly gratifying result of increasing the vision from $\frac{4}{200}$ to $\frac{16}{200}$. This has since still further improved.

Dr. H. F. Hansell, of Philadelphia, read a paper on

CORNEAL ABSCESS,

describing its symptoms and referring to the differential diagnosis between it and ulcer. He protested against the use of cocaine in abscess or other inflammatory conditions of the cornea. A few drops of a strong solution will often destroy the epithelium. Instillation of eserine, alternating atropine, was recommended. Operative interference should be limited to evacuation of the pus.

Dr. Charles J. Kipp, of Newark, read a paper entitled

FURTHER OBSERVATIONS ON MALARIAL KERATITIS.

The author had called attention to this condition in a paper read before the Society in 1880. He had seen one hundred and twenty cases of the disease. In all there had been paroxysms of malarial fever, and in ninety per cent. the corneal inflammation followed a few days after a paroxysm. In twenty-five per cent. the patients had suffered from similar trouble in previous attacks of malaria. The inflammation of the cornea occurred in the form of serpiginous ulceration, with narrow prolongations. The trouble began as a line of small grayish elevations, which soon broke down, forming a furrow of ulceration. In mild cases the duration is two or three weeks, while in severe cases it may last several months. There is a marked tendency to recurrence in subsequent attacks of malarial fever. In a few cases he had seen a similar affection in non-malarial individuals. The treatment consists in remedies directed to the general condition, and, in mild cases, with warm fomentation. In severe cases a one or two per cent. solution of nitrate of silver, applied directly to the furrows after the use of cocaine, answers well. In some very severe cases the actual cautery was employed. This arrested the progress of the disease and stopped the pain, provided the malarial trouble had previously been cured.

DISCUSSION.

Dr. Henry D. Noyes, of New York: During the past fifteen or twenty years I have met with cases of superficial keratitis due to malaria. It is rare to find the deeper tissues invaded. I am led to suspect a malarial origin in cases where there is exaggerated tenderness of the supra-orbital nerve and distinct anæsthesia of the surface of the cornea. The form of ulcerative keratitis which has been described I regard as of mycotic origin and have cured it by scraping thoroughly the lines of infiltration.

Dr. T. Y. Sutphen, of Newark: I have seen cases similar to those described by Dr. Kipp in patients suffering with malaria, and where there has been no distinct chill; the individuals have resided in malarious districts.

Dr. John Green, of St. Louis: I have seen many cases in which malarial fever was followed by superficial keratitis, or keratitis modified by neglect or improper treatment. I have not met with the form described by Dr. Kipp.

Dr. Emil Gruening, of New York: I have seen this form of ulcerative keratitis but I have associated it with the teeth. These patients have had tartar on the teeth, and have been in the habit of moistening the lids with saliva. I think, therefore, that the source of infection is in the mouth.

Dr. Samuel Theobald, of Baltimore: I have also seen for many years this keratitis associated with malarial trouble. These cases do not always show ulceration of the cornea. I have, in a general way, regarded this condition as analogous to herpes zoster. I have once or twice seen iritis associated with the keratitis following malaria. In one case of malaria I have seen this keratitis with herpes zoster of the temple.

Dr. J. A. Lippincott, of Pittsburg, read a paper entitled

IRRIGATION OF THE ANTERIOR CHAMBER.

This procedure is useful for the removal of débris in cataract-extraction and of clotted or liquid blood. In order to accomplish this successfully it is necessary to have an apparatus which can be readily made and kept aseptic; which will always be ready for use; which can be easily handled and the movement controlled with one hand; whose ejecting force is capable of being easily regulated; and which is free from the liability of forcing air-

bubbles into the anterior chamber. As fulfilling these requirements, he exhibited an apparatus consisting of a small metal receptacle with which was connected a rubber tube ending in a metal nozzle, the flow of liquid being controlled by a short piston in a rubber handle through which the rubber tube passed. The ejecting force can be varied by elevating or lowering the receptecal.

Dr. E. Gruening, of New York, exhibited a small flask devised by Von Graefe for the same purpose.

Dr. David Webster, of New York, exhibited two specimens of "sword-fish's eyes."

Dr. Henry D. Noyes, of New York, exhibited a "spectacle-frame" in which the nose-piece of the eye-glass was combined with the ordinary spectacle-frame.

Dr. Henry D. Noyes, of New York, read a paper entitled

ENUCLEATION OF THE EYE IN PAN-OPHTHALMITIS.

There have been reported by various observers thirty or forty deaths following enucleation, almost all from meningitis. About one-half of the fatal cases have occurred after enucleation during acute suppurative pan-ophthalmitis. At the New York Eye and Ear Infirmary there have been no deaths from this cause, when no additional operation in the orbit, such as the removal of tumors, etc., has been done. The number of enucleations, from 1868 to 1838, was 1,164; the number of evisceration, 17. Pan-ophthalmitis existed in fourteen per cent. of the cases. It seems fair to conclude that while a small risk to life is incurred by enucleation of the eye, the supposed increased risk by the existence of suppurative pan-ophthalmitis is not so far justified by the facts as to bar its performance in this condition.

Adjourned.

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Afternoon Session.

Dr. H. Knapp, of New York, read a paper entitled

THE TREATMENT OF CARIES AND NECROSIS OF THE ORBIT.

The upper wall of the orbit is the most frequent seat of disease, and here its consequences are most dangerous. In every case of caries and necrosis of the orbit the condition of the neighboring cavities, and especially the nose, should be carefully investigated. Foci of suppuration should be freely opened, the cavity thoroughly cleansed, and drainage established. This can be well accomplished by small silver tubes provided with flanges. Rough bone should be scraped away with a sharp spoon. Necrosed portions of bone should be removed as soon as they become loose, or when they can be detached without injury to adjacent tissues. The eyeball should be protected, and, if there is insufficient closure of the lids, a plastic operation should not be postponed until the cornea becomes ulcerated from exposure.

Dr. H. W. Williams, of Boston, read a paper entitled

MULTIPLE CYSTS OF THE IRIS OCCURRING IN BOTH EYES.

The subject was a girl, nine years of age. In the right eye there was a projection resembling a large cyst, extending from the upper margin of the pupil. A similar growth projected from the temporal border. At the inner part there were two small pedunculated growths. All were of the color of the iris. In the left eye, two somewhat oval cysts filled the pupillary space. Through the square opening left in each pupil there was a little oblique vision.

Dr. T. Y. Sutphen, of Newark, read a paper entitled

SARCOMA OF THE OPTIC NERVE.

The patient was ten years of age; the tumor involved the left orbit and was of two years' duration. It was of a mushroom-shape and sprang from the optic nerve. Its size was six by five and a quarter inches and two inches thick. It was readily removed with curved scissors. As much as possible of the nerve was removed.

Dr. George C. Harlan, of Philadelphia, read a paper entitled

EXTENSIVE VASCULAR GROWTH IN THE VITREOUS.

The patient, a woman fifty years of age, presented herself, November 29, 1888, on account of disturbance of vision. Examination of the right eye showed the fundus to be slightly hazy, with small dull white spots about the macula, the remains of old hemorrhages, but no recent exudation. The disk was obscured by a delicate net-work of vessels. Otherwise there was no opacity. There was no stroma. Up to March 2, 1889, there had been several retinal hemorrhages, but there had been no change in the vascular membrane.. Vision had been reduced to $\frac{1}{10}$.

Dr. O. F. Wadsworth, of Boston, read a paper entitled

EXTRACTION FROM THE VITREOUS OF PIECES OF STEEL BY THE MAGNET.

The author described two cases in which the piece of steel was removed by passing an electro-magnet into the vitreous through an opening in the sclera. In the second case the operation was followed some weeks later by a separation of the retina, beginning at a point opposite that at which the puncture was made.

Dr. J. O. Tansley, of New York, read a paper en titled

CORNEAL TRANSPLANTATION.

The speaker reported a case in which he had done this operation for opacity of the cornea. At the first operation the opacity was not removed to its full depth, and although the cornea cleared to a certain extent, the result was not satisfactory. The operation was therefore repeated, but without any improvement in vision. In both operations there was primary union of the graft, and in neither was there any inflammatory reaction.

DISCUSSION.

Dr. L. Webster Fox, of Philadelphia: I have performed the same operation in a case of opacity of the cornea when the patient could just distinguish light from darkness. The graft healed readily without inflammatory reaction, and the patient obtained useful vision and could almost count fingers.

Dr. Charles A. Oliver, of Philadelphia, read a paper entitled

AN ANALYSIS OF SOME OF THE OCULAR SYMPTOMS OBSERVED IN SO-CALLED GENERAL PARESIS.

These observations were made on twenty well-marked cases of general paralysis of the insane. The study was limited to subjects in the so-called second stage of the disease, where the psychical symptoms had become of such a character as to necessitate control, and where motor and sensory derangement had become more or less manifest. Care was taken that each subject was seemingly free from any extraneous general disease or local disorder, and the entire study was limited to the male sex, so as to escape any conflicting and complicating changes that might appear in connection with the many diseases peculiar to the female sex. Thirty observations were made, resulting in the following summary:

1. The sensory changes herein described, which have been limited to unequal optic-nerve degeneration, decrease of retinal circulation, with subnormal direct and eccentric vision for both form and color, distinctly show lowered sensory response.

2. The motor symptoms, consisting in unequal and feeble movement of the irides, causing inequality and irregularity of pupillary areas, the peculiar form of ataxic nystagmus, the slight loss of ciliary tone, all express want of proper muscle-action—true paresis.

3. The peculiarly local conditions shown in the fundus, such as the pigment massings, the crescents of absorption, the disturbed and granular condition of the

choroid, etc., all indicate wear and tear of an abused and iritated organ.

4. Therefore these observations upon the ocular apparatus, which were most probably made during the second stage of the disease known as general paralysis of the insane, show not only local changes, but distinctly demonstrate that the series of sensory motor disturbances found are but the peripheral expression of one of the many indices of gradual loss of neural strength and power in this disease.

Dr. George C. Harlan, of Philadelphia, reported a case of "Hysterical Blindness," of ten years' duration, in a male, twenty-two years of age.

Dr. Samuel B. St. John, of Hartford, described a case of "Hemianopsia, with Peculiar Cerebral Symptoms."

Dr. B. Alexander Randall read a paper on "Simple Tests of the Ocular Muscle."

Dr. T. Y. Sutphen, of Newark, N. J., read a paper entitled

### A CASE OF DOUBLE PURULENT CHOROIDITIS RESULTING FROM MENINGITIS.

February 23, 1887, I was called in consultation to see G. W. B——, a robust farmer, thirty-nine years of age. He had always been healthy, with the exception of an occasional "bilious headache." Never had had any specific trouble. The history was that on February 9th he came in at noon, perspiring very freely; that evening he suffered with intense headache. The next morning he was apparently well, but at breakfast had a violent chill, with aching of the whole body. This was followed by high fever. Leaving the breakfast-table was the last that the man remembered for three months. From this time the patient rolled and tossed in bed, without decided delirium, but being in a stupid condition and easily restrained. Questions were answered only after frequent repetition, and the replies ran into complete incoherence. On the third day of the illness the body became quite rigid, with the head thrown backward. On the fourth day the left hand and forearm became swollen and the right eye inflamed. The left eye became inflamed on the tenth day. Later the left foot became swollen. The swelling of the hand and foot lasted about a week and then subsided. The fever then became less violent and the general condition improved, but the mental sluggishness remained. There was no paralysis, no convulsion, no vomiting. At the end of the third week he had a slight chill, and another after he was out of bed.

At present the man is apparently in good health. He has lost none of his functions and the mind is perfectly clear. When first seen by the writer the eyes were in the following condition: No swelling of the lids; moderate pericorneal injection; cornea clear; anterior chamber normal in depth; irides slightly discolored; pupils moderately dilated, with a yellowish reflex from the anterior portion of the vitreous; there was no perception of light, no tenderness on pressure, but a marked lessening of the tension of the globe. Three days later the anterior chamber in each eye was obliterated by pressure from behind the lens; the eyeballs being harder than normal. One week later the anterior chamber was again restored and tension had again fallen much below the normal. From that time there was progressive atrophy of both eyes, until now there is left only the greatly shrunken globes, with, of course, absolute blindness.

In this case there must have been an extension of the intracranial inflammation along the sheath of the nerves and not a forcing of the products of inflammation forward, as sufficient pressure within the cranium to produce this must evidently have become apparent by more or less paralysis.

The case is reported simply as a clinical contribution to this somewhat rare and obscure trouble, which is certain to be met with in the course of practice.

Adjourned.

## Second Day, Thursday, July 18th—Morning Session.

Dr. C. S. Bull, of New York, read a paper entitled

### CONTRIBUTIONS TO THE SUBJECT OF TUMORS OF THE ORBIT AND NEIGHBORING CAVITIES.

Case I.—Was an adenoma.sarcoma of the lachrymal gland. It was operated on two years ago. There has been no return.

Case II.—Was one of abscess of the ethmoid cells, frontal sinus, and orbit in a male, aged forty-six. It was opened, washed out, and drained. There was perfect healing.

Case III.—Tumor of the maxillary antrum, nasal fossa, ethmoid cells, orbit, and cranial cavity. The eye was enucleated and the maxillary antrum cleaned out. A large opening was found through the orbit into the anterior fossa of the skull, and through this the tumor extended. The evening following the operation the patient became comatose, and died the next morning.

### DISCUSSION.

Dr. H. Knapp, of New York: The report of thess cases shows the necessity of early operation in all casee of tumors of the orbit or near the orbit.

Dr. B. A. Reeve, of Canada: In a number of these cases of empyema of the frontal sinus I have found hypertrophy of the middle turbinated bone. This is a point of importance in etiology and prophylaxis.

Dr. C. S. Bull, of New York, read a paper entitled

### CASE OF DOUBLE CHOKED DISK DUE TO INTRACRANIAL TUMOR, WITH AUTOPSY.

The patient, a young married woman, twenty-three years of age, was seen, June 30, 1888. In February, 1888, had miscarriage, and was quite ill for a couple of weeks. There was dull headache at vertex. This became more severe. During April there were occasional attacks of diplopia. During May there was failing vision. When examined, $V = \frac{18}{20}$ in each eye. Accommodation was normal. There was no peripheral limitation of the field of vision, either for form or color. There was an irregular negative scotoma for all colors. There was marked exudative neuro-retinitis, with hemorrhages in both eyes. Urine proved normal on examination. The only symptoms of intracranial disease were the lesions of the optic nerve and the headache at the vertex. The diagnosis was intracranial tumor at the base of the brain. Vision rapidly failed, and by September 25th there was no perception of light. The mental faculties gradually became impaired. Right hemianæsthesia came on. The patient died May 5, 1889. Autopsy showed a tumor involving the corpora quadrigemina and extending to the anterior crura of the cerebellum. The growth appeared to be a glio-sarcoma.

Dr. O. F. Wadsworth, of Boston, reported a case of "Torticollis," cured by tenotomy of the external rectus.

Dr. Myles Standish, of Boston, read a paper entitled

### PARTIAL TENOTOMIES IN CASES OF NEURASTHENIA, WITH INSUFFICIENCY OF THE OCULAR MUSCLES.

The author reported five cases in which he had performed this operation on account of constant headache, inability to use the eyes, and neurasthenic symptoms. In all but one there was marked and prompt relief of the local and general symptoms by the operation. Cases requiring operation are comparatively rare.

Dr. David Coggin, of Salem, read a paper entitled

### NOTES ON SOME VAGARIES OF ACCOMMODATION.

One case was of hypermetropic astigmatism passing into myopia. A case of recurrent spasm of accommodation was also reported. The third case was one of temporary anomaly of sight, occurring daily. In the morning could see well, but in afternoon could not recognize objects across the street. Double vision also occurred. The disturbance is gradually disappearing.

Dr. E. E. Holt, of Portland, read a paper entitled

EFFECT UPON THE ACCOMMODATION OF A PATIENT'S EYE CAUSED BY LOOKING INTO THE MIRROR SET OBLIQUELY IN THE ROOM DURING OPHTHALMOSCOPIC EXAMINATION.

Directing the patient to look with one eye into a mirror set obliquely while the other was examined with the ophthalmoscope, an element of ease was found in making the examination and of comfort and steadiness on the part of the patient never experienced before. The eye fatigues quickly in looking at a single object. Looking into the oblique mirror gives the impression of gazing into the distance. A notable change in the pupil will be observed when the patient is directed to look at an object at the distance of the mirror, and when he is directed to look at objects reflected from it.

Dr. O. F. Wadsworth, of Boston, read a paper entitled

PARALYSIS OF THE SPHINCTER IRIDIS.

A case was reported of paralysis of the sphincter iridis, without affection of the accommodation, lasting several months and following the instillation of homatropine in both eyes.

DISCUSSION.

Dr. Samuel Theobald, of Baltimore: In all such cases it is important to exclude malingering. It would be possible for the patient, by the use of a weak solution, to keep up the mydriasis without affecting the accommodation.

Dr. Samuel D. Risley, of Philadelphia: Another practical explanation of such cases is the use of a pipette previously used for a solution of a mydriatic, for a solution which contains no mydriatic.

Dr. John Green, of St. Louis, presented a series of geometrical constructions illustrating certain cases of "oblique pencils refracted at cylindrical and spherical surfaces."

Dr. John Green also read a paper on "Some of the Stereoscopic Alterations evoked by Unequal Glasses placed before the Two Eyes."

Dr. Samuel Theobald, of Baltimore, read a paper entitled

THE EMPLOYMENT OF OLEATE OF VERATRIA TO FACILITATE THE DETERMINATION OF ERRORS OF REFRACTION.

A mydriatic affords valuable aid in myopia and in hypermetropia, but in astigmatism its use is not so satisfactory. In astigmatism he had found great help from the use of a ten per cent. oleate of veratria to the temple and forehead once a day for three or four days. This seems to exert a quieting effect upon the ciliary muscle, and especially of the radiating fibres, and lessens the tendency to asymmetrical accommodation. The following rule was formulated in regard to the correction of astigmatism: When the astigmatism is according to the rule, we need correct only that which is readily made manifest. On the other hand, in astigmatism against the rule, we are warranted in correcting fully every part of the defect which can be rendered manifest.

Dr. E. E. Holt, of Portland, read a paper entitled

THE INEFFICIENCY OF HYDROBROMATE OF HOMATROPINE IN CONTROLLING THE ACCOMMODATION FOR THE PURPOSE OF FITTING GLASSES.

The experience of the writer was that this drug could not be relied upon. He reported one case in which the latent hypermetropia revealed by a three per cent. solution of hydrobromate of homatropine was just one-half of that revealed by a one per cent. solution of atropia.

DISCUSSION.

Dr. Edward Jackson, of Philadelphia: I have found homatropine entirely satisfactory when used properly. The instillations must be repeated at short intervals, five or ten minutes, and three or four instillations practised. The effect rapidly passes off and the examination must be made within one or two hours. I have followed the use of homatropine by another mydriatic without alteration in the result.

Dr. E. Jackson, then read a paper entitled

AMETROPIA AS DETERMINED UNDER COMPLETE MYDRIASIS.

He had examined four thousand eyes under complete paralysis, and presented the following table of his results. These were compared with results obtained by another observer without mydriasis.

| | With mydriasis. Per cent. | Without mydriasis. Per cent. |
|---|---|---|
| Compound hyperopic astigmatism.. | 40 | 9½ |
| Compound myopic astigmatism.... | 9 | 11 |
| Simple hyperopic astigmatism..... | 6 | 16½ |
| Simple myopic astigmatism..... | 2 | 24 |
| Mixed astigmatism..... | 6½ | 2 |
| Hyperopia..... ..... | 31 | 10 |
| Myopia ..... ..... | 4 | 9½ |
| Emmetropia ..... | 1½ | 17½ |

Dr. Jackson also presented a paper on "Accuracy in the Prescription of Prisms."

Dr. U. S. Dennett, of New York, read a paper in which he suggested a "New Unit of Angular Measurement for Prismatic Glasses."

Dr. George C. Harlan, of Philadelphia, exhibited "Periscopic Cylindrical and Sphero-cylindrical Lenses."

Dr. W. F. Mittendorf, of New York, read a paper entitled

A CASE OF AMBLYOPIA DUE TO CHLORAL HYDRATE.

The object was to put on record a case of toxic amblyopia due to chloral hydrate. The patient had for six months been in the habit of taking forty to sixty grains of the drug at night to induce sleep. Suspension of the drug relieved the amblyopia.

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Executive Session.

OFFICERS FOR ENSUING YEAR.

*President*—Dr. Hasket Derby, Boston; *Vice-President*—Dr. George C. Harlan, Philadelphia; *Secretary and Treasurer*—Dr. Samuel B. St. John, Hartford; *Corresponding Secretary*—Dr. J. S. Prout, Brooklyn; *Delegate to the Ex. Com. of the Congress of American Physicians and Surgeons*—Dr. John Green, St. Louis; *Alternate*—Dr. D. B. St. John Roosa, New York.

The following were elected to membership: Dr. Carl Koller, New York; Dr. R. A. Reeve, Toronto, Canada; Dr. David Harrower, Jr., Worcester, Mass.; and Dr. George E. de Schweinitz, Philadelphia.

The Society then adjourned, to meet at the Hotel Kaaterskill, N. Y., the third Wednesday of July, 1890.

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## AMERICAN OTOLOGICAL SOCIETY.

*Twenty-second Annual Meeting, held at the Pequot House, New London, Conn., July 16, 1889.*

The Society was called to order by the President, Dr. J. S. Prout, of Brooklyn.

Dr. B. Alexander Randall, of Philadelphia, read the first paper, entitled

INFLAMMATION OF THE TYMPANIC ATTIC, AND PERFORATION IN SHRAPNELL'S MEMBRANE.

The author reported twenty cases, fifteen of which had been seen in the past six months, and urged that the condition was not a rarity. It often coexists with one or more perforations of the other parts of the drum head. If sought and recognized early, it is a less tedious and serious matter than these attic inflammations are generally considered to be. He cited some one hundred and twenty cases, reported by several observers among ten thousand patients, and, while he had seen a still larger

proportion, accepted this as the average. Passing over the treatment as having been already thoroughly discussed, he turned to the question of causation, and cited the views of Walb, that infection from without, through the "foramen Ravinii" was the starting-point. Contesting this view as to any colotomatous opening in the flaccid membrane as wholly negatived by modern embryologists, he urged that the individual variations in the septum in the attic predisposed some cases to localized inflammation, and led to perforation at this point; and that these cases, neglected or recurrent, formed the group from which the usual obstinate cases were derived. He therefore advocated scrupulous search in all cases for disease in this locality, as promising to nip in the bud what might later become disease notoriously difficult to control. The paper was illustrated by drawings and photographs of specimens.

DISCUSSION.

DR. S. D. RISLEY, of Philadelphia: I have frequently seen perforations elsewhere associated with perforation in Shrapnell's membrane. The presence of perforations in other parts of the drum-membrane does not exclude its presence in Shrapnell's membrane.

DR. J. O. TANSLEY, of New York: I have never met with perforation of that part of the drum to which the doctor refers, associated with perforation in other parts of the drum. A singular thing is that we so rarely get the perforation whistle.

DR. S. O. RICHEY, of Washington: I do not think that perforations of Shrapnell's membrane are so common as has been stated. My experience with the absence of perforation whistle corresponds with that of others. I have had cases in which perforations in other parts of the drum healed, but the perforation in Shrapnell's membrane persisted. In treating these cases, besides using measures through the external auditory meatus, I have employed injections through the catheter, consisting of nitrate of silver, one part; boric acid, ten parts; glycerine, twenty parts; and water, five hundred parts.

DR. GORHAM BACON, of New York: I have not observed this condition so frequently as Dr. Randall. It is often difficult to see these perforations. In treatment I have generally used Blake's intra-tympanic syringe. By persistent syringing and the use of astringents cicatrization is often produced. These cases are, however, very tedious.

DR. J. A. ANDREWS, of New York: In treating these cases in which there is purulent inflammation of the attic, with a large hole in Shrapnell's membrane, after injecting the cavity I suck out the fluid by means of this instrument, consisting of a delicate metal tube with a curved extremity, to which is attached a rubber tube. I use simply a boric-acid solution. After sucking out the fluid I dry it with cotton wrapped on a probe. I then blow in a fine cloud of boric acid.

DR. HERMAN KNAPP, of New York: There is a capital difference between perforations in the upper and those of the lower part of the drum-membrane. Those in the lower part may close in a few days, while in the upper part they may continue for months or years. I think this is due to difference in anatomical structure. The lower portion is a specific tissue with little association with periosteum, while the upper part is a duplicature of periosteum and skin. When the latter part is affected the process extends to the periosteum, leading to caries and necrosis of the bone.

DR. F. M. WILSON, of Bridgeport, Conn., read a paper entitled

THREE DEATHS FOLLOWING SUPPURATIVE OTITIS, WITH TWO AUTOPSIES.

Cases in which death follows a first attack are so rare that it was thought of value to report these cases. The first patient was forty years old, who for two weeks before coming under observation had had pain in both ears. February 27, 1888, the pain in the left ear became very intense. March 1st, he became partially unconscious and remained so, with occasional convulsive movements, until March 6th, when he died. The mastoid was drilled half an inch, but no pus found. No autopsy was made.

The second case, a male, aged twenty-three years, was attacked with subacute otitits. March 11th, symptoms of meningitis appeared, with high temperature, and he died March 27th. At the autopsy one-third of the base of the cerebrum was involved in the purulent process, which extended up under the frontal convolutions. There was about half an ounce of turbid fluid between the dura mater and inner meninges. There was pus in the labyrinth and in the tympanic cavity.

The third case was that of a boy, aged ten years, who was attacked with suppurative otitis September 5th, and died about ten days later. At the autopsy the meninges were found normal, but an abscess containing two drachms of fluid was found in the cerebellum.

Dr. Wilson also presented

A MASTOID DRILL,

provided with a guard which could be set at any desired point, regulating the distance to which the drill entered. The edges of the drill are sharp, so that the opening can be enlarged horizontally to any desired extent.

DISCUSSION.

DR. GORHAM BACON, of New York: It seems to me that in these cases where we do not find any collections of pus in the mastoid cells we are justified in investigating the condition of the brain.

DR. J. O. TANSLEY, of New York: I have had several of these cases, and have without success sought for some means by which we could differentiate between those cases in which there was meningitis and those in which there was abscess. In one case Dr. Seguin made a diagnosis of abscess, based upon conjugate deviation of the eyes. Subsequent autopsy showed the correctness of this diagnosis. In another case I suspected abscess. Dr. Weir opened the mastoid, but found no pus. We also explored the cerebrum, and two days later the cerebellum, but found no pus; the patient died of suppurative meningitis.

DR. S. D. RISLEY, of Philadelphia: It seems to me that in the differential diagnosis attention to the temperature in connection with symptoms of pressure is of great importance. In meningitis the temperature from the outset will be higher than in abscess, and the symptoms of pressure come on later.

DR. J. A. ANDREWS, of New York: In the past year I have made a number of autopsies in cases of brain abscess. Brain abscess may continue for a considerable time without any very positive symptoms, but where there is meningitis or phlebitis, especially phlebitis, there is usually a sudden rise of temperature, with chills

DR. OREN D. POMEROY, of New York: In a case of brain abscess, secondary to tympanic disease, the only marked symptom was a sudden rise of temperature, sometimes going up in half an hour from normal to 107° F. Intelligence was unaffected until the last. The man gradually improved, but died suddenly. The autopsy showed a large abscess of the brain covering the petrous portion of the temporal bone.

DR. ARTHUR MATHEWSON, of Brooklyn: It is often difficult to make a diagnosis between abscess and meningitis; and, in fact, many are mixed cases. In meningitis the pain is more marked than in abscess. In meningitis there is more likely to be optic neuritis, while in brain abscess I have noted a peculiar dark appearance about the retinal veins.

DR. SAMUEL THEOBALD, of Baltimore: The treatment of the preliminary stage of these cases is important. It seems to me that a great deal might be done to prevent the occurrence of the conditions referred to. I have

found benefit from local applications, especially atropia and cocaine, and morphia and cocaine. If the bowels were constipated I should use a calomel cathartic. If there should be symptoms of cerebral implication I should administer mercury in some form to secure its constitutional effect.

Dr. E. Fridenberg, of New York: During the past eighteen months I have made autopsies in two patients dead from cerebral abscess. In one case suppuration had lasted a year, but there had been no symptoms until a week before death, except irritability of temper. There was some odor, but very slight discharge from the ear. A week before death the patient developed pain in the ear, slight tenderness over the mastoid, followed by fever and symptoms of brain-pressure. A small abscess was found in the temporo sphenoidal lobe. The roof of the tympanum was carious, and the meninges strongly adherent.

In the second case the patient had had suppuration for years. Two months before death headache occurred, which was relieved by treatment. It recurred, with fever. There was some pain on pressure over the mastoid process. The symptoms again disappeared under treatment. Three weeks later he returned with similar symptoms. The next morning vomiting occurred, and that evening he died. An abscess containing two ounces of pus was found in the temporo-sphenoidal lobe.

Dr. T. Y. Sutphen, of Newark: These cases of brain trouble almost invariably follow the arrest of the flow of pus. We should look upon these cases as instances of local trouble and should treat the middle ear by fomentations, and perhaps by poultices, to bring about free discharge of pus.

Dr. R. A. Reeve, of Toronto, Canada: In one case of death following acute suppurative otitis there was the most profuse purulent discharge that I have ever seen, and it continued from beginning to end.

Dr. B. Alexander Randall, of Philadelphia: A case of cerebral abscess occurred in my practice last year in a boy, the subject of scrofulous disease of the elbow and other joints. I found both ears discharging, caries of the auditory meatus on both sides. On the left all the mastoid tissues were involved. Under treatment the right side rapidly improved, and on the left side there was also improvement. The case was then transferred to my surgical colleague. Six weeks later the ears were still in good condition, but the patient was gradually failing from the constitutional trouble. An hour before death there was suddenly a discharge of at least two ounces of fetid pus from the ear. There was no meningitis, but a large abscess cavity was found in the sphenotemporal lobe, one-half inch from the tympanum, and connected with it by a sinus.

In cases where it is thought justifiable to perform exploratory trephining of the brain, an admirable and safe point is one and one-fourth inch behind, and an equal distance above, the upper posterior margin of the osseous meatus. This avoids the major blood-vessels, and it would be possible to reach the cerebellum through it.

Dr. F. E. Holt, of Portland, Me., reported a case of

COMPLETE CLOSURE OF BOTH EXTERNAL AUDITORY CANALS BY BONE

in a patient having good hearing power, with a previous history of chronic suppurative otitis media.

T. M——, aged eighteen years, was seen in April, 1889, for an affection of the eye. It was incidentally learned that he had had abscesses in both ears when seven years old, and the ears discharged more or less for six years, but stopped entirely five years since. Examination showed the canals of both ears of about half the usual length, and occupied by a continuation of the skin of the meatus, with no appearance of the membrana tympani. There was complete closure of the canal by what appeared to be bone by all the tests employed.

The hearing power for the voice was good. The stop-watch was heard only when close to the ear, the tuning-fork was heard about ninety seconds, both by bone and aerial conduction. König's rod of thirty thousand vibrations per second was heard by both ears. He heard less distinctly when both ears were closed by pressure on each tragus. Shutting the mouth and closing the nostrils did not seem to affect the hearing power much, if at all. Cases with closure of one meatus with the skin of the canal continuous over the obstruction have been observed, but the hearing power is very defective. Cases in which there is a small opening between the exostosis and the walls of the meatus are not uncommon.

Dr. Samuel Theobald, of Baltimore: Four or five years ago I reported a case very similar to the one described, the newly formed membrane was, however, nearer the orifice. The hearing power was good.

Dr. B. Alexander Randall, of Philadelphia: I have had one case in which one ear was obstructed by a bony mass. There was no evidence of exostosis. The hearing was, however, defective.

Dr. E. E. Holt, of Portland, Me., also reported a case of

OTITIS MEDIA CATARRHALIS ACUTA, ACCOMPANIED WITH FACIAL PARALYSIS AND IMPAIRMENT OF ACCOMMODATION OF THE EYE OF THE AFFECTED SIDE.

Judging from statistics one would be led to believe that paralysis of the facial nerve in connection with acute catarrhal inflammation of the middle ear was not a common complication. In many cases the pain having been slight and having passed off, and the paralysis having come on, the patient's attention is directed to this and he seeks advice for the latter affection, and the cause of the paralysis is recorded as "a cold" or "rheumatic."

F. I.——, aged twenty-four years; seen May 19, 1889. Seven days before took cold, and right ear began to pain that night. This pain continued three days, when it subsided, and on the fourth day he was unable to use his lips properly. Examination showed all the characteristics of facial paralysis. Testing the eyes there was found paralysis of accommodation of the right eye. This the author knew to be a fact because he had previously had the patient under his care and recorded the test of his eyes, and also by the fact that since the improvement of the paralysis of the face the paralysis of accommodation has disappeared.

Dr. S. O. Richey, of Washington, D. C., read a paper entitled

THE PHYSIOLOGY OF THE INTRO-TYMPANIC MUSCLES.

The paper was the elaboration of a suggestion made by the writer in the discussion of a paper read by him at the Congress of American Physicians and Surgeons in 1888.

If the membranum tympanum in purpose protects the aural tissues lying interior to it, these muscles, being appendages to the membrane, are designed to assist the purposes of the membrane, which they do in part, by protecting it from injury by the impact upon it of sound impulses violent enough to rupture an inflexible membrane firmly attached and having such a plane as to expose it to the fullest force of the concussions. The membrani tympani fulfils one of these conditions; it is firmly attached. He quotes Toynbee and Henle as having many years ago expressed a somewhat similar view as to the action of the tympanic muscles, and states that he can find no reference to this subject by later writers. The shape and other peculiarities of the auditory meatus, the elasticity and capacity for motion of the drum-membrane and its oblique position with relation to the meatus, the co-ordination between the palatal and the intra-tympanic muscles, converting the tympanic cavity into an air-cushion, all indicate a similar purpose on the part of nature to guard the membrani tympani immediately and the labyrinth mediably from violence.

EVENING SESSION.

DR. GORHAM BACON, of New York, exhibited photographs of the ear.

CYSTS OF THE AURICLE.

Of late a number of cases of so-called cysts of the auricle have been reported. Not one of these, however, seems to represent a genuine cystic tumor, such as is found in other parts of the body. They all were situated on the anterior surface of the pinna and were of rapid development. They either were the results of traumatism and contained a sanguinolent fluid, or they developed without known cause. Mild inflammatory symptoms were present in all. The development within two or three weeks, in almost all cases, distinguishes them clearly from the slow and absolutely non-inflammatory development of true cystic tumors. All got well either by spontaneous absorption or by incision. The speaker had seen at least half a dozen of these cyst-like sub-perichondrial swellings of the auricle. He considered them to be mild cases of perichondritis, for these mild cases of circumscribed perichondritis may, instead of getting well, remain in this condition for a time and then develop into the full picture of a diffuse perichondritis. He reported such a case.

DR. KNAPP also described a case of genuine cyst of the auricle occurring in a girl nineteen years of age. The growth was double the size of a large filbert, distinctly cystic, and had developed without known cause and without any inflammatory symptoms. The cyst was removed by operation, without rupture, and was exhibited. These tumors are not frequent in the auricle, but they cannot be so rare as we might infer from otological literature.

DR. WILLIAM H. CARMALT, of New Haven, reported a case of

EPITHELIOMA OF THE MIDDLE EAR.

The patient, a robust man, aged forty-seven, was first seen in June, 1888, on account of a suppurating ear (left), which had existed forty-two years and had followed measles. The ear had given him no inconvenience, with the exception of the discharge, until a few weeks before he came under observation. He then began to have pain in and around the ear, and the discharge was exceedingly offensive. The canal was blocked by a ragged but firm excrescence, very sensitive to touch. There was slight tenderness, but no swelling or pitting over the mastoid. The pain radiated through the side of the head and interfered with sleeping. At the second visit the left side of the face was completely paralyzed. The case was regarded as one of epithelioma of the skin of the canal. The patient was seen by another gentleman, who thought the trouble might be a carious antrum. An attempt was therefore made to open the antrum, but the bone around it was so sclerosed that the cavity was practically obliterated. There was nothing of the nature of an abscess in the mastoid. The incision was then prolonged through the soft parts, and into the external auditory canals. What polypoid could be reached was removed, and a drainage-tube inserted. The mass removed proved to be carcinomatous. In the course of a few weeks the ear again became blocked up, and the skin became involved. With the object of alleviating some of the distressing accompaniments of the condition, another attempt was made to clear it out. By chiselling away the bone posteriorly, free access to the ear-cavity was obtained, and the bone scraped apparently clean. No auditory apparatus was seen, simply a mass of carcinomatous tissue. The cavity was washed with a solution of resorcin, and for a time the wound did well, but subsequently the disease reappeared. The discharges became again offensive, and the patient exhausted, and he finally bled to death without the condition being detected, probably from erosion of the lateral sinus. No autopsy was permitted.

DR. B. ALEXANDER RANDALL, of Philadelphia, exhibited a series of photographs, and made some remarks on the use of photographs and of the lantern in teaching otology.

Dr. Randall also reported five cases of

SUPERNUMERARY AURICLE,

four of the right ear, one of the left ear.

A PEA FOR NINETEEN YEARS IN THE AUDITORY CANAL.

DR. T. Y. SUTPHEN, of Newark, exhibited a mummified pea which he had removed from the auditory canal where it had lain for nineteen years. The patient had been deaf in that ear since childhood. He heard the watch at one inch. After removal of the foreign body the hearing was almost normal.

DR. B. ALEXANDER RANDALL made some remarks upon the anatomy of the drum-membrane.

DR. HUNTINGTON RICHARDS, of New York, sent a paper entitled

TWO NOTEWORTHY CASES OF TRAUMATIC RUPTURE OF THE MEMBRANI TYMPANI.

CASE I.—Seen May 7th. A woman, aged thirty, two days before had received a box on the left ear. The symptoms were vertigo, tinnitus, and marked deafness. There had been no bleeding or other discharge. There were some evidences of pre-existing tympanic catarrh, in that the drum-membrane was somewhat depressed and moderately atrophic. Save for pronounced congestion of the manubrial vessels, and a narrow red line along the border of the opening, it was not congested. The exposed inner wall of the tympanum was likewise pallid, secreting only sufficient mucus to give its surface a glistening appearance. The patient was directed to let the ear alone, and a small, loose cotton obturator was placed in the auditory meatus.

CASE II.—A woman, aged twenty-three, came under observation May 22d. There was no discharge nor bleeding. There was no congestion of the membrane or of the tympanic wall. The patient had complained of aural symptoms for several weeks. On May 21st she consulted a physician, who introduced a cotton-covered probe. This made her so dizzy that she had to lie down immediately, and within two hours she discovered that she was very deaf.

The treatment was negative, and up to May 31st no change had occurred. The edges of the opening were then stimulated with nitrate of silver solution, and a small quantity of boric acid was insufflated. Examination made a few days later showed that the opening had healed, with the exception of a small part. The patient then passed from observation.

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EXECUTIVE SESSION.

OFFICERS FOR ENSUING YEAR.

*President*—Dr. Oren D. Pomeroy, New York; *Vice-President*—Dr. Gorham Bacon, New York; *Secretary and Treasurer*—Dr. J. J. B. Vermyne, New Bedford, Mass.; *Member of Executive Committee of Congress of American Physicians and Surgeons*—Dr. W. H. Carmalt, New Haven; *Alternate*—Dr. F. B. Loring, Washington, D. C.; *Committee on Membership*—Drs. Arthur Mathewson, Samuel Theobald, and S. D. Risley; *Committee on Publication*—Drs. J. J. B. Vermyne, C. J. Blake, and J. Orne Green.

A committee consisting of Drs. S. C. Ayres and William W. Seely was appointed to prepare a minute on the death of Honorary Member Dr. E. Williams, of Cincinnati.

The following were elected to membership: Dr. Harlan P. Allen, Columbus, O.; Dr. Ralph W. Seiss, Philadelphia, Pa.; Dr. David Harrower, Jr., Worcester, Mass.; Dr. Robert Barclay, St. Louis, Mo.; Dr. Neil P. Hepburn, New York, N. Y.

The Society then adjourned.

# Correspondence.

## OBSERVATIONS AT THE CLINIC OF DR. APOSTOLI IN PARIS.

To the Editor of The Medical Record.

Sir: For about three months during the past winter I was a constant visitor at the clinic of Dr. Apostoli, for the purpose of observing his method of treating fibroid tumors of the uterus, and noting the results.

Certainly no improvement in medicine has of late years attracted more widespread attention, if we may judge by the frequent references to it in the medical journals, the reports of societies, and the brochures which appear in various parts of the world.

The clinic is so easy of access, and strangers are so courteously received here, and given so many privileges, that there are always quite a number present, generally representing several nationalities, some just beginning their professional life, others men of distinguished reputation.

They have the opportunity of making examinations, following the cases as long as they choose, consulting the records, and drawing their own conclusions.

Every observation is dictated by Apostoli in their presence and hearing, and is recorded by a clinical assistant.

An enormous number of observations have been collected in this way embodying a mass of information, the scientific value of which can be properly estimated only by those who have watched the painstaking, conscientious care lavished on the work.

The technique of the method has been described in detail many times, most favorable results reported by independent observers in widely separated countries, and objections, theoretical and practical, fairly answered; yet many have not been able to decide upon the question of its freedom from danger, the amount of pain caused, or its efficacy.

At least it is beginning to be realized that no royal road to science has been discovered, and that a little knowledge of gynecology and a little knowledge of electricity will only lead the experimenter out of the beaten track to land him in a quagmire.

In the hands of the originator, the method produces results which compare favorably with anything done in the field of practical medicine, for if we can believe the evidence of our senses and the statements of patients, by it hemorrhages are controlled, pain due to congestion and inflammation relieved, as well as symptoms due to pressure upon neighboring organs, while the general health is restored and the patients return to active life.

In some instances it is not an extravagant statement, that the size of the tumor has been sufficiently reduced to permit child-bearing, when otherwise it would have been difficult or dangerous.

An observer, who follows the cases for a few months only, may be deceived as to the diminution in size of these tumors, and can only judge of the permanency of the results from cases which occasionally report after a long interval of time has elapsed, but he can hardly be deceived about the other symptoms mentioned above.

The amount of pain which the patient must endure has been variously estimated by different writers, being even considered by some a serious objection to the method—which is a mistake; that is, if it be properly understood and applied.

In different patients, and in the same patient at different times, tolerance or supportability varies greatly, but the rule is not to apply a current of greater intensity than the patient is able and willing to bear without urging. This limit is generally reached, but in some cases the full force of the battery causes scarcely any discomfort.

The period during which there is suffering is a portion only of the five minutes allotted to the séance, as some time is consumed in gradually increasing the strength of the current.

The patient is required, absolutely, to repose an hour after the application, during which she suffers rather from a sense of nervous fatigue than from actual pain.

However, it is during this period that some do have pains due to uterine colic, but they are seldom severe, except in cases of complete intolerance, when vomiting also supervenes. This was observed in two patients only, and had no serious results.

One, on the contrary, terminated most happily, the result being a suppression of a hemorrhage which had occurred daily for nine months. When the patient returned to the clinic she was scarcely recognizable for the improvement which had taken place. In this case only thirty milliampères were given on three occasions, for less than five minutes.

It is rare for a patient not to be able to walk to an omnibus and ride home without inconvenience, when the hour of repose is terminated.

No accidents have been witnessed at the clinic beyond the breaking of a wire or some derangement of the battery, by which a painful shock was produced—accidents which are avoidable, and consequently ought not to happen.

To avoid the possibility of septic infection from cauterization of the endometrium, or from the slight wound inflicted by the galvano-puncture, antiseptic precautions are taken in all cases.

The application is preceded by an injection of dilute creoline, which is continued twice daily by the patient. Where galvano-punctures are made iodoform gauze is applied, but in spite of it, or on account of the negligence of the patient, ulcers have resulted occasionally, which, however, were not of a character or appearance to cause uneasiness.

Many of the patients have been more or less incapacitated for work by abdominal pain and soreness, much increased by standing or walking, cæcydynia and cystitis, as well as by painful or prolonged menstruation or hemorrhages.

It is remarkable with what promptitude their condition is sufficiently ameliorated to enable them to resume work by which they gain a livelihood.

When hemorrhages have been suppressed, the gain in general health, weight, and color is easily accounted for, as the blood making processes continue in activity; but in non-hemorrhagic cases the same thing occurs, as for example in the case of a married woman who, after fourteen applications, went up in weight from 114 to 130 pounds, with proportional improvement in general health and spirits.

When menstruation has continued regular, it is not interfered with by the treatment, which is begun immediately after one epoch and continued to the next.

After the treatment is suspended, the improvement is more fully realized, because the remaining abdominal soreness continues to diminish, and the denutritive changes which have begun in the tumor continue to go on indefinitely.

There now takes place a deposit of fat in the abdominal walls over the seat of the tumor, and the tumor itself shows a tendency to become lobulated; if subperitoneal it becomes even pedunculated to an extent which brings it to the notice of the patient herself, who in one instance declared that it had taken the shape of a gourd with a crooked neck.

That great changes take place in the tumor in consequence of the treatment, is shown in cases where the sound cannot be introduced at all from the position into which the cervix has been crowded.

Galvano-punctures are here resorted to, and after a while there is a marked tendency of the parts to assume a normal position, and the sound is now introduced without difficulty.

The same thing is noticed in cases where the patient

has to be placed in the genu-pectoral position for the first few applications, after which the sound can be introduced with the patient in the dorsal position.

It is difficult to estimate correctly the diminution which a fibroid tumor has undergone, for the uterus rises high in the abdomen after repose, and sinks into the pelvis after standing. The apparent size varies greatly with the condition of the uterus as regards congestion, for if this condition be relieved, the acute symptoms subside and the tumor seems much smaller.

This lobulization, which is so evident upon palpation, indicates, especially as it goes on increasing for a long time, nutritive changes which encourage one to hope that the improvement will be permanent.

When the tumor is subperitoneal another termination is sometimes observed (as with the treatment by ergot); the mass is expelled into the uterine cavity or forms a polypus. Eight cases of this kind have been reported by Dr. La Torre, of Rome.

This is a fortunate termination, but as mere size bears no relation to the amount of mischief caused, we may be satisfied if in other cases the symptoms disappear and there is no fear for the future.

It has been asked how the electric current can produce denutrition of the tumor and increased nutrition elsewhere.

The question assumes the existence of a specific denutritive action, which it is not necessary to do, for all the phenomena can be explained upon principles already established by Onimus and others, who have shown the beneficial influence of the continuous current upon congestions, its stimulant effect upon the absorbents, and that it promotes normal nutrition.

If we analyze the symptoms, they are bound to be largely due to congestion and nervous irritation brought about by an intolerance of the organ for the lesion, conditions which are relieved long before the tumor itself could be much influenced.

The congested uterine tissues offer less resistance to the current than the tumor, hence they are the first to be influenced by it.

The subsequent changes in the tumor may be traced to the maintenance of a normal circulation, and the stimulation of the absorbent and muscular systems of the parts. A diseased endometrium often accompanies the tumor, and is a potent factor in causing congestion. The cauterization effected by the inter-uterine pole doubtless contributes to a favorable result by curing this condition of the endometrium.

It is probable that in other situations, where a lesion is badly tolerated, the accompanying symptoms can be relieved by the application of the continuous current—for example, a localized tuberculous deposit in the lungs.

The writer has no doubt that skilful physicians are able to do much for the relief of cases of fibroid tumors with other means; nevertheless, he is firmly convinced of the safety and efficacy of Apostoli's method, and would advise it under all circumstances.

More especially, he would insist that in the light of the information we possess, no patient should be subjected to a formidable operation until this method has been tried and found wanting. HOWARD SMITH, M.D.

PARIS, June 6, 1889.

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ACCUMULATION OF BROMIDE OF POTASSIUM IN THE BRAIN.—M. Doyon reports the case of a boy who died of an intercurrent disease after from one to two drachms of bromide daily for a year. Analysis showed the presence of thirty grains of bromide in the brain and twelve grains in the liver.

PILOCARPINE IN HYSTERIA.—Dr. Vieira de Andrade, writing in *O Brazil-Medico*, of May 8, 1889, reports a case of aggravated hysterical convulsions, in a child aged twelve, in which a complete cure was obtained within a few days by the administration of pilocarpine.

# New Instruments.

## AN EASILY CLEANED POCKET-CASE.

BY S. OSCAR MEYERS, M.D.,

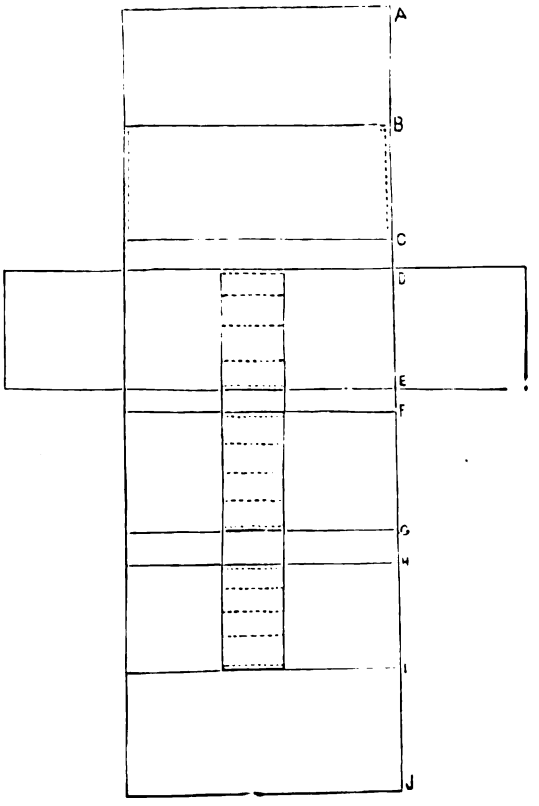
MOUNT VERNON, N. Y.

FOR the benefit of Dr. Bradshaw and others, who dislike to carry a filthy, poison-saturated surgical pocket-case, I offer the following suggestions:

Beauty must be sacrificed for utility and safety. The silver-clasped sealskin case, with its crimson silk, or "violet velvet lining with the lamplight gloating o'er," may be a thing of beauty, but after a few weeks' use it must necessarily become saturated with septic germs. Its material and make-up prevent cleansing and disinfecting.

For a simple, cheap, aseptic pocket-case, cut chamois-skin like the diagram, fifteen inches long, five inches wide, with two side-flaps, two and a quarter inches long. Fold the section A B on B C, two and a quarter inches, and stitch the two ends, thus forming a pocket for needles, silk, etc.

The sections D E, F G, H I, are each two and a quarter inches wide, and will hold four instruments each. The dotted lines show where a piece of tape, one inch wide, is stitched to form loops for the instruments. The spaces C D, E F, G H, allow for folding, and are each half an inch wide. When closed, J I folds on I H, to prevent chafing, then on G F, then E D; the side-flaps fold over the ends, and the needle-pocket over all. Two




rubber bands slipped over the ends keep it closed. Like any other case that is constantly carried in the pocket, this one will soon become more or less saturated with perspiration and effete matter from the body and clothing. To prevent this, it should be enclosed in a little bag made of sheet rubber. The superiority of this case consists in the fact that it can easily be washed and disinfected. The needle-pocket can be turned inside out; the whole case can be immersed in a solution of acid. carbolicum, acid. boracicum, or hydrar. bichloridi without injury, and when dried will be thoroughly clean and aseptic. Lastly, its cost is so little that the doctor can afford a new one every time he collects a bill.

## Army News.

*Official List of Changes in the Stations and Duties of Officers serving in the Meaical Department, United States Army, from July 14 to July 20, 1889.*

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Ordered to Illinois National Guard, near Springfield, Ill., during remaining portion of Encampment. Par. 1, S. O. 159, A. G. O., July 12, 1889.

BALL, E. R., Lieutenant and Assistant Surgeon. Leave of absence for fifteen days granted. Par. 3, S. O. 87, Department of the Missouri, July 9, 1889.

BURTON, H. G., Captain and Assistant Surgeon. By direction of the Secretary of War the extension of leave of absence, on Surgeon's certificate of disability, granted in S. O. 22, January 26, 1889, is further extended two months on account of sickness. Par. 1, S. O. 162, A. G. O., July 16, 1889.

IVES, F. J., Assistant Surgeon, now at Fort Lyon, Cal., will proceed to Camp near Oklahoma City, I. T., and report to the commanding officer for duty, relieving Captain W. C. Gorgas, Assistant Surgeon, who, when so relieved, is authorized to avail himself of the leave of absence granted him in Par. 2, S. O. 84 c. s., Department of the Missouri. Par. 1, S. O. 87, Department of the Missouri, July 9, 1889.

GARDNER, WILLIAM H., Major and Surgeon. By direction of the Secretary of War, detailed to attend the Encampment of the National Guard of the District of Columbia, at Fort Washington, Md., from July 22 to 29, 1889, for the purpose of giving instructions to the medical officers and hospital corps in their respective duties. Par. 1, S. O. 164, A. G. O., July 18, 1889.

STEINMETZ, WILLIAM R., Captain and Assistant Surgeon, now at Baltimore, Md., on leave of absence on account of disability, by direction of the Secretary of War, will report in person to the commanding officer of the Watertown Arsenal, Mass., for duty at that station, relieving Lieutenant-Colonel James C. McKee, Surgeon. Par. 3, S. O. 166, A. G. O., July 20, 1889.

MCKEE, Lieutenant-Colonel. On being relieved at the Watertown Arsenal, will repair to Philadelphia, Pa., and assume the duties of attending surgeon and examiner of recruits in that city. Par. 3, S. O. 166, A. G. O., July 20, 1889.

ROBINSON, SAMUEL Q., Captain and Assistant Surgeon, Fort Hamilton, N. Y. H. Leave of absence for two weeks granted. Par. 11, S. O. 165, Headquarters Division of the Atlantic, July 22, 1889.

BALL, R. R., Lieutenant and Assistant Surgeon. Leave of absence granted in S. O. 87, Department of the Missouri, July 9th, is extended five days. Par. 1, S. O. 167, A. G. O., July 22, 1889.

EWING, CHARLES B., Assistant Surgeon. Promoted, in accordance with the act of June 23, 1874, to be Assistant Surgeon with the rank of Captain, after five years' service. July 5, 1889.

BALL, ROBERT R., First Lieutenant and Assistant Surgeon. The extension of leave of absence granted in S. O. 167, July 22, 1889, is further extended ten days. Par. 23, S. O. 169, A. G. O., Washington, July 24, 1889.

By direction of the President, the State of Arkansas, embracing Little Rock Barracks, is transferred to the Department of the Missouri. General Orders No. 66, Headquarters of the Army, A. G. O., July 19, 1889.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending July 27, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 29 | 10 |
| Scarlet fever | 45 | 6 |
| Cerebro-spinal meningitis | 3 | 3 |
| Measles | 53 | 6 |
| Diphtheria | 97 | 27 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

GERMAN PHYSICIANS AND THE PARIS EXPOSITION.—At a meeting of a Berlin society of retired medical men, not long since, a resolution was adopted calling upon German physicians to keep away from the Medical Congress to be held in Paris this summer. The members of this society were very promptly rebuked by the *Berliner klinische Wochenschrift* for their action, and the journal urged the active members to take a part in the meetings, and to show that they did not allow political feeling to interfere with scientific progress. Some hot-headed Frenchmen were incensed when it was decided to hold the next International Congress in Berlin, but we believe they have since come to look at the matter in a calmer spirit, and it is hoped that the French representation at Berlin will be fully up to the average of that at previous congresses.

A NEW METHOD OF TREATING FRACTURED PATELLA.—At a recent meeting of the Clinical Society of London, Mr. Mayo Robson showed a patient (a young woman) on whom he had operated by a novel method to secure bony union in a case of fracture of the patella. The skin over and around the joint was cleansed and rendered aseptic and the joint then aspirated. Drawing the skin well up over the upper fragment, a long steel pin was passed through the limb from one side to the other, just above the upper border of the patella. The limb being similarly transfixed just below the patella, gentle traction on the pins brought the fragments into apposition. Antiseptic dressing was applied, and left undisturbed for three weeks; when it was removed there was no sign of irritation and the temperature had never been above normal. As the fragments seemed well united the needles were withdrawn, a plaster-of-Paris splint applied, and the patient allowed to go home. Mr. Robson observed that the only precaution necessary was to draw up the skin over the upper fragment in order to avoid undue traction upon it when the fragments were approximated. If there was much effusion in the joint it would be desirable to aspirate.

SHORT-HAND FOR MEDICAL STUDENTS.—At a recent meeting of the General Medical Council of England, Sir Dyce Duckworth proposed to include short-hand among the subjects of the preliminary examination for intending students of medicine. His motion was, however, promptly voted down. Short-hand is doubtless a very useful accomplishment, but it can hardly be regarded as a necessary prerequisite to a sound medical education.

AN OLD ANATOMICAL WORK.—It is reported that there has been discovered in the Royal Library of Berlin a "Latin Manual of Anatomy," in manuscript, which was written in the year 1304. Its author was Henri de Mondeville, surgeon to Philip the Handsome of France, and teacher of Anatomy and Surgery at Montpellier and Paris. The value of the manuscript lies in the fact that hitherto we have possessed hardly any knowledge whatever of the state of anatomy at the period in question.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

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## Original Articles.

### TREATMENT OF INJURIES TO THE HEAD.[1]

BY DUDLEY P. ALLEN, M.D.,

VISITING SURGEON TO LAKE SIDE HOSPITAL; VISITING SURGEON TO CHARITY HOSPITAL; CONSULTING SURGEON TO ST. ALEXIS HOSPITAL, CLEVELAND, O.

ANY surgeon familiar with injuries of the head is acquainted with the difficulties which are met in diagnosticating the exact seat of injury, and its extent. The differentiation between concussion and compression, though much discussed, has been most unsatisfactory. There is great uncertainty, too, in prognosis. Some cases of severe injury result in recovery, while in other cases of apparently slight injury death occurs speedily. There are still other cases which do well for a time, and then die suddenly and unexpectedly.

It is not the purpose of this paper to discuss cases of severe injury where there are external wounds, together with a fracture and evident depression of the skull. In these there is no doubt of the necessity of surgical interference. I shall speak rather of cases where the diagnosis is doubtful, and consider what plan is to be pursued under such conditions.

As a basis for these considerations, I will state six cases of injury which have recently come under my care. The first will be stated somewhat at length, in order to show the method pursued in treatment and operation.

On September 10, 1888, Mrs. W——, aged thirty-nine, in vigorous health, while standing in a car door was thrown violently backward, by the sudden starting of the train, and struck her head upon the metal arm of a seat. When I saw the patient for the first time, on November 2d, she could not definitely locate the point struck, but placed it at about the median border of the left parietal bone, close to its posterior margin.

Patient was helped out of the car, and walked a short distance, but soon became dizzy, and was compelled to lie down. The same night, some hours later, she aided in caring for others injured in the same wreck, and the next day took a railroad ride of several hours. During the four weeks following there was much headache, but the patient was up and about. About October 10th the pain increased, and dizziness, which had previously existed, became more marked, so that patient staggered some in walking. From this time patient remained in bed until November 2d, when she was brought to Cleveland, about eighty miles, and entered Charity Hospital under my care. At this time the pain in the head was intense, and patient said she felt as though a nail were pressing upon her brain at the point where she received the injury. This pain was so severe that she threw her head somewhat backward, and seemed to want to bore the occiput into the pillow. Had a constant sensation of falling backward; slept poorly; was greatly depressed in spirits and very nervous; had previously vomited occasionally, but not recently; but the vomiting may have been due simply to gastric disturbances.

Patient was placed upon iodide and bromide of potassium, and later bichloride of mercury was added to these, and they were continued about five weeks, but with out any noticeable change.

On November 30th a consultation was held at which Drs. H. K. Cushing, W. J. Scott, Frank Weed, B. L. Millikin, Henry S. Upson, and myself were present, and the same gentlemen met again, December 7th. Dr. Millikin made repeated examinations of the eyes, and Dr. Upson of the various nervous phenomena.

The following are extracts from their examinations:

*Dr. B. L. Millikin's Report.*—"Examination of the eyes, November 3, 1888. O. D. v=$\frac{6}{6}$; O. S. v=$\frac{6}{6}$. Movement of the eyeballs in all directions normal. Pupils normal in size and reaction. The objective field for white shows undoubtedly some peripheral narrowing in both eyes. Eyes very sensitive to light ever since the injury.

"The ophthalmoscope shows in O. D. borders of disk slightly hazy, disk and retina somewhat injected, choroidal crescent to outer side of disk, arteries slightly diminished in calibre, veins greatly distended and very tortuous all over fundus of the eye, from the borders of disk clear out to the periphery all the veins being involved. O. S. shows disk slightly injected, a little haziness of borders, broad choroidal crescent outward, arteries normal in size or a little diminished in calibre, and veins likewise greatly distended and tortuous over entire fundus.

"January 2, 1889.—Fundus of eyes has changed but little since last examination. Perhaps calibre of veins slightly diminished. No haziness of borders of disk of O. D. The pupil of O. S. is now larger than O. D., but both react readily to light and to accommodation. Vision in both eyes normal."

*Dr. Henry S. Upson's Report.*—"Examination of Mrs. W——, November 3, 1888. On palpation of head there is a tender spot just to left of median line, in the posterior part of the parietal region. There is no paralysis of eye-muscles, nor deviation of face nor tongue. Patient stands somewhat unsteadily; but there is no loss of power in either arms or legs; grip is the same on both sides; sensation is acute all over the body, as well to painful as to tactile impressions. The triceps, wrist, and knee reflexes are equal on the two sides, well marked, but not exaggerated; there is no ankle clonus. The visual memory is perfectly good; patient can read very well, can recall faces, scenes, and colors as well as before the accident; there is no hemiopia.

"November 16th.—Patient has noticed a weakness of the right side, and has had sharp pains in the right toe and foot. On examination the grip seems distinctly weaker on the right side, and the muscles of the right foot act less energetically, possibly as a result of the pain in that region. There is no change in the reflexes.

"December 6th.—Patient's condition practically unchanged. Still intense pain at point of injury, and tenderness to pressure. No paralysis nor anæsthesia. Pain in right foot better since last examination. Has had some pain in the left foot. Is still rather unsteady when she stands."

To summarize the case. It appeared that an injury to the skull had been followed by severe headaches, continued for three months, and that pain and tenderness at the point injured were intense. There was also marked dizziness. Examination of the eyes showed sensitiveness to light and very marked congestion and tortuosity of the veins, indicating perhaps increased intercranial pressure. Examination of the nervous apparatus showed no focal symptoms referable to the cerebrum, unless it were a slight weakness of the right side, which, however, was not positive. There was also pain in the fourth toe of right foot,

[1] Read before the Ohio State Medical Society, May 23, 1889.

later becoming general in ball of foot. This was so severe that patient stepped on foot with difficulty. There were neither chills nor fever accompanying sickness.

In spite of appropriate medication and surroundings, patient grew worse rather than better. On this account, and from the fact that the blow upon the head was just posterior to the leg-centre of the left side, and that this was accompanied by severe pain in the right foot, and that the marked tortuosity of the retinal vessels indicated increased intercranial pressure, it was decided by the gentlemen in council to trephine at the point of greatest tenderness and pain.

On December 13th the operation was performed in the presence of the consulting physicians and several others. On the previous day the bowels were thoroughly cleared by ol. ricini; the head was shaved and disinfected, and wrapped in a towel wet in bichloride of mercury. A hypodermic injection of morphine, one-fourth grain, was administered and the patient was etherized. A flap, three inches wide at base and four inches antero posteriorly, was made down to the periosteum. The base of the flap was toward the occiput. The periosteum was divided by a crucial incision and the bone exposed. The skull was opened by a Horsley trephine one inch and three-quarters in diameter. The trephine was made for me by Gemrig, of Philadelphia.

Since the skull was of unequal thickness and about five-sixteenths of an inch thick at one side, it became impossible to complete the operation with the trephine, since by so doing the brain would have been seriously lacerated at one side before the skull was divided at the other. It was thus necessary to divide the remaining bone with a small chisel. In doing this the inner table of the skull split off, the slivered part remaining attached to the button of bone and slanting out under the periphery of the trephined opening. Thus the button was removed with much difficulty, but this was finally accomplished without lacerating the brain or its membranes. The button of bone removed was found to be uninjured. The dura mater bulged quite markedly into the opening and fluctuated slightly. This was divided through about two-thirds of its periphery at about an eighth of an inch distance from edge of bone. The pia mater was somewhat congested at the central portion, and lifted from the surface of the brain by an increase of the clear cerebro-spinal fluid. This fluid was evacuated, neither clot nor inflammatory exudation was found, nor was there any depression of the inner table of the skull. The dura mater was then united by a continuous suture of very fine catgut; the bone, which after its removal had been kept wrapped in an antiseptic towel, and under water at a temperature of 100° F., was returned to its place, the dura mater was drawn together over it by a fine catgut suture, a drainage-tube was placed under the flap up to the opening in the skull, and the scalp was united and dressed antiseptically. The patient recovered from the anæsthetic rapidly, having endured the operation well, and soon regained consciousness. The dressings soon became quite moist with the escape of cerebro-spinal fluid. A day and a half after the operation the temperature had marked 101.3° F. and the pulse 100. Ice-bags were applied, and after this it was impossible to tell whether the moisture of the dressings was due to the escaping cerebro-spinal fluid or to the moisture from the ice-bags.

On December 17th, four days after the operation, the dressings were opened, sutures and drainage-tube removed, and the wound found in perfect condition. From this time the progress of case was most satisfactory, and on December 28th patient sat up for first time. The union of the wound was by first intention throughout, and without a single drop of discharge.

On January 6th patient walked down hospital stairs, a long and difficult flight, and on January 18th went to her home. Since that time her progress toward recovery has been continuous.

After the patient's return home the left pupil was considerably more dilated than the right. On April 18th her husband writes: "The left pupil is dilated some at times, though not near so much as a few weeks ago. Within a week past I have seen more improvement than in any three or four previous. I think the trouble in the back of the head is entirely relieved. There is still some frontal headache when she exercises too much, and the eyes are weak so she cannot read very much." I now present you the lady operated upon to examine for yourselves. She seems perfectly well.

This case is one of six that have recently come under our notice, in which severe blows upon the head had been received. In none of them was there evidence of injury to the skull externally.

Case II. I saw about five weeks after the receipt of his injury. During the last four weeks the patient had had convulsions, and latterly high fever, and was comatose. I trephined. There was no depression externally, but a small piece from the internal table of the upper margin of the left parietal bone penetrated the membrane of the brain, and in the substance of the brain was an abscess containing about two ounces of pus. The case terminated fatally about one week later, the case being well-nigh hopeless at the time of operation. The clinical evidence of the case would have dictated an operation on the third day following the accident.

Case III.—Was of a man struck upon the vertex of the cranium by a shaft, but not rendered senseless. He continued at work for about ten days. I saw the patient five weeks after receipt of injury. He was then comatose, and had impaired motion of right side. Patient died one week later. The brain was removed before I had an opportunity to examine it, but was said to show no lesions which could be seen macroscopically. I examined the skull carefully, and it appeared normal in all respects.

Case IV.—Was of a man who fell from a second-story window. Was unconscious for a few moments, after which time he walked upstairs. There was considerable nosebleed, and a fracture apparent of the nasal bones. During night of injury was delirious for a few hours, but later suffered little pain, and was about the house after nine days, and three weeks from date of injury went to work regularly. During succeeding eight weeks patient was twice delirious and unconscious, but between these attacks he worked. About ten weeks from the time of injury patient was brought to hospital, when I saw him for the first time. He was then unconscious, and had stertorous breathing. It was 11 P.M., and I operated at once, since condition admitted of no delay. Trephined frontal bone of right side just above frontal sinus. The skull was cracked vertically at this point. No depression of inner table could be found. The membranes were injected, but no collection of pus was discovered, either externally or by puncturing substance of brain deeply with a scalpel. Patient's condition did not improve, and he died thirty-six hours after operation. The autopsy showed a diffuse meningitis, with a small amount of pus under the pia mater. A small piece of bone just to the right of the crista galli was fractured and depressed outwardly.

Case V.—Was of a man injured by falling from a car about fifteen years ago, and striking on head just over right eye. Was in hospital a short time. Remained well until November, 1885, when he began to be drowsy and lose his memory. On December 8, 1886, had his first epileptiform seizure, after which he became unusually stupid. Case seemed hopeless without an operation, and on January 8th I was asked to operate, which I did at the seat of old injury. A trephine one inch in diameter was used. Nothing abnormal was found. Button of bone was not returned. Wound healed by first intention. Patient got up from operation slowly. Three months later had two convulsions. Did not walk without crutches for a year. At this time resumed trade of a watchmaker, and did his work all right, but was forgetful. Later had attacks of weakness, and two years from time

of operation patient died. At autopsy the opening made by the trephine was about half-closed by bone, and fully covered by periosteum.

The inner table of the skull was normal. Effusion into the pia mater was quite marked over whole surface of brain. At many places it was stained red. Brain substance and medulla appeared normal. The microscope showed serous and bloody effusion into the pia mater very marked, with congestion of the meninges.

CASE VI.—Was of a man who three years before, and again three months later, received severe blows on right side of head. He recovered rapidly in the first instance, going to work in a few days, and in the latter on the same day as the injury. Since this time has occasional clonic spasms which are slight. Worked most of the time until about five months ago, since which time he has been unable to do so. Recently has grown much worse. Spasms and convulsions are more frequent. Is very slow and uncertain in all motions and mental processes. Walks with great difficulty, and during last week seems to have a tendency to fall backward. A possibly slight dragging of left foot. No other distinct focal symptoms discovered, by most careful examination. Opthalmoscopic examination, by Dr. Millikin, showed marked optic neuritis of both eyes, with considerable swelling of the disks and several small hemorrhages. Pupillary reactions normal. Vision of right eye, $\frac{3}{30}$; and of left, $\frac{6}{6}$.

During the week that patient was in hospital his condition grew rapidly worse. Convulsions were more frequent and more prolonged. It became evident that anything which was done must be done at once. The history of a blow upon the right side, and the slight dragging of the left foot, determined the operation over the leg-centre on the right side. Two buttons of bone were removed by a three-quarter inch trephine, and the opening was elongated antero-posteriorly by a rongeur. The pulse at the beginning of the operation was 160, and there was considerable cyanosis. The membranes bulged strongly into opening, and were congested. The convolutions were much flattened and anæmic. The finger was carried an inch outward from the opening in the skull in all directions, but nothing abnormal could be felt. A scalpel carried one and one-half inch into the substance of the brain gave no information. The dura mater was united with great difficulty, owing to the great bulging of brain. Patient died about thirty-six hours after operation. At the autopsy a grayish mass one and one-half inch in diameter was found, four inches posterior to gabella of nose and two and one-half inches to right of median line, and just anterior to the point touched by the finger in operating. Under microscope this presented the appearance of a glioma.

It may not be unprofitable, in closing this paper, to point out certain features peculiar to each of the cases mentioned.

Case I. was reported at length to show the difficulties incident to the diagnosis of a case of head injury, and also the great care requisite for operation.

It is very remarkable, too, that a button of bone one inch and three-quarters in diameter should be removed from the skull for nearly half an hour, be replaced, and grow firmly into its place, without any unfavorable symptom of any sort. It is such results as these which decrease one's fears in operations upon the brain.

Case II. is one which might probably have been saved by an early operation. There was a convulsion on the third day following the injury, and other symptoms indicating the necessity of immediate interference. The accompanying specimen shows a crack in the external table of the skull, and the depressed spicula of bone from the internal table.

Cases III. and IV. are illustrations of the fact that apparently slight injury to the skull, not so severe as to prevent the patient's working, may after a few weeks result fatally.

The accompanying button of bone, taken from one of these cases, illustrates how the skull may be cracked, and still no depression of bone occur.

Case V. suggests that injuries may result in epilepsy. That this is true seems now to be a fact well established, as illustrated by the relief secured in certain cases of epilepsy by trephining.

Case VI. suggests that cerebral tumors may result from injury. Whether this is so or not can only be established by numerous observations. The importance of quiet after injuries to the head is very great. It is not improbable that Cases III. and IV. might have recovered had they remained quiet after being injured.

A good deal might be said about methods of operating and instruments. Of the necessity of strict antisepsis there can, I think, be no question. By no other method could one expect to remove and again replace portions of the skull, and have them grow in place successfully.

As to instruments, the large "Horsley" trephine which I show you here, one and three-quarters inch in diameter, has the advantage that it opens a large field for work, and that the single piece of bone thus removed can be replaced more easily than several smaller pieces. It is, however, a very unsatisfactory instrument to use, for several reasons. If the skull were flat and of uniform thickness, there would be little difficulty. This, unfortunately, is not the case, and as a result the trephine cuts through the skull at one point, and is liable to wound the brain before the skull is divided elsewhere. If an attempt be made to avoid this by tipping the trephine, it binds so closely in the cut that it is impossible to turn it. This might be remedied to a certain extent by making the trephine conical, and the cutting grooves on the periphery of the trephine deeper and slanting, as in the small trephine I show you here. It has been suggested to me that a trephine might be constructed, consisting of a segment of a circle, so that this might be used to cut at any portion desired.

I have operated with quite a variety of trephines, and find the conical instrument, with deeply grooved sides, by far the most convenient. Several openings can be made with this if required, and the opening enlarged to any extent desired by the rongeurs which I show you here. I have used a chisel in working on the skull, but a serious objection to it is that it is liable to splinter the inner table.

The question of diagnosis of cerebral lesions is an extremely complicated one, and it is not within the province of this paper to consider it. Though it must be impossible to determine the exact character of many injuries, much can be done by a careful observation of symptoms, together with observation of the retina, for indications of intracranial pressure, of the seat of the blow upon the skull, and the possible manifestation of focal symptoms. In these observations the surgeon may receive valuable assistance from the oculist and neurologist.

In each of the operations mentioned ether was used, and was wholly satisfactory as an anæsthetic.

In conclusion, I would insist upon the fact that injuries to the head, though apparently slight, may be of serious import, and that fatal results may be averted by prolonged quiet.

I would also state my belief that, in skilful hands and with modern methods, the dangers of operations upon the cranium have been greatly diminished, and that timely interference will save many cases of injury to the skull which have formerly been left to nature, and resulted fatally.

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MULTIPLE BIRTHS IN NICE.—According to statistics published by Dr. Berlin in the *Nice Médical*, the proportion of twin-births in Nice to the whole number of births is 1 to 75.54, and of triple births 1 to 5,575. In France the proportion of twin-births to the whole number is 1 to 101, and of triple births 1 to about 10,000. Dublin surpasses Nice, however, the proportion for twin-births there being 1 to 57.

# THE TOXIC EFFECT OF COCAINE HYDROCHLORATE, WITH REPORT OF A CASE.

By CHARLES H. CHETWOOD, M.D.,

NEW YORK.

EXPERIMENTS testing the physiological effects of cocaine upon the lower animals have shown that different animals of the same species vary greatly in their power of resisting its toxic influence, and that the toxic symptoms produced often differ in their nature, being convulsions, sometimes tetanic, more often epileptiform, and at times paralysis, coma, and death, not preceded by convulsions. And so it will be noticed, in the use of a moderate amount, as an anæsthetic on the human subject, while in the majority of instances no ill effects may be experienced, yet occasionally we meet with cases which show a marked susceptibility to its influence, exhibited by symptoms sometimes mild, and less often violent.

It is not infrequent after the injection of a small quantity of cocaine under the skin, or local application to some mucous membrane, for a patient to become garrulous and somewhat excited, or show other mild symptoms of general excitement.

These milder symptoms are of various qualities, being sometimes different degrees of mental excitement, or, when more of a depressing nature, slowing of the circulation, general pallor, nausea, and fainting. They have no direct relation with the amount of cocaine used; they sometimes occur where the quantity is small, and in other cases where it is larger do not appear.

The case I am about to report is one which occurred during my service as House Surgeon in Bellevue Hospital, and merits some notice on account of the peculiar and rather violent symptoms produced.

The patient was about twenty-five years of age, and was afflicted with a stricture of the anterior urethra which it was deemed advisable to cut. About a drachm of a four per cent. solution was thrown into his urethra, and shortly afterward another drachm, most of the first having escaped; so that, in all, not much over one drachm remained in contact with the urethral mucous membrane. An examination by the bulbous bougies had previously been made, hence a possible dissolution in the continuity of the mucous membrane, and a consequent greater absorption, should be taken into account.

Within three minutes after the introduction of the cocaine the patient seemed to be unnaturally nervous and excited, his pupils showed marked dilatation, and the lids being retracted gave him a very wild appearance. His excitement greatly increased, he soon became unruly, so that it took several men to hold him down, against whom he fought wildly and vociferated loudly. His actions resembled what is seen in an attack of acute mania.

Outside of the maniacal symptoms the cocaine manifested its effect in another form, which was an interesting feature, and consisted in tetanic, or tonic, spasms of the muscles, as varying from epileptiform, which is more often met with as a result of cocaine.

At the onset of the attack the patient was on a table, and though he fought and resisted, it could be noticed that both arms were markedly drawn up and the muscles rigid. There was also spasm of the muscles of the thorax, which was apparent from the impaired respiratory movements. In getting upon his feet and attempting to move, he walked "stiff-legged," and the spasms became more acute when he tried to use his muscles; in fact, without assistance he would have fallen down. During the attack the pulse was rather slow, and there was a general pallor of the external surface.

He was given a hypodermic of whiskey and eight minims of Magendie, and in a few minutes' time became more quiet, and submitted to being put to bed. Within a quarter of an hour the whole attack had passed off, the pupils became normal, the spasms had ceased, and all that remained was a feeling of dizziness, and a vague recollection of having made a disturbance, without any vivid remembrance of what had occurred.

Other cases, partaking of one or the other of the characters of this one, have undoubtedly been met. Tetanic convulsions do occur, although they are usually epileptiform. Whether one is the effect of the cocaine on the spinal cord, and the other on the cerebral cortex, I am not prepared to discuss. Professor Mosso, of Turin, in experimenting on animals, after cutting the spinal cord high up, still induced violent tetanic convulsions by the use of the drug, and it was invariably the rule, after death following the occurrence of epileptiform convulsions, to find extensive anæmia of the cortex cerebri.

Many cases of epileptic convulsions have lately been reported following the use of cocaine as an anæsthetic, and one or two have terminated fatally. *Sajous' Annual*, of this year, mentions a number of cases, notably one reported by H. C. Simes, of Philadelphia, where the convulsions were excessively violent, and resulted in death twenty minutes from the onset.

I witnessed a case in Bellevue Hospital which might have terminated fatally but for the active and immediate measures employed.[1]

Besides these cases of epilepsy, grave conditions are occasionally met, in the use of cocaine, in which convulsions do not appear. As an example of this I quote a case of almost instantaneous death, preceded by collapse and not by convulsions, and probably referable to cocaine, recorded by W. T. Belfield, of Chicago.[2] Abadie [3] gives an account of a patient who died in a somewhat similar manner, following the application of cocaine to the eye, death being preceded by coma and paralysis, and not by convulsions.

In summing up the various untoward symptoms which may follow the use of this drug, we find that we have mental excitement of different degrees, generally ushered in by headache, dizziness, and dilatation of pupils; more or less cardiac depression; it may be only slight irregularity of the pulse, but has amounted to total collapse; and dependent upon the cardiac depression cyanosis, difficult respiration, general pallor, fainting; reflex phenomena, such as nausea, vomiting, colic, evacuation of bowels; and then the more violent symptoms which occur: convulsions, epileptiform and tetanic, producing often only a transient commotion, but which have been so severe as to result fatally; and finally, paralysis, coma, and death, not preceded by convulsions.

The pupils generally become dilated after the administration of cocaine, and do not necessarily imply the onset of more alarming symptoms.

Notwithstanding the frequency of cases combining one or more of the above symptoms, which have occurred and have been reported, the progress, of late, in the use of cocaine as an anæsthetic, has been very marked, not to mention its numerous internal indications.

However, many of those who have had recourse to its use, and who have come in contact with cases which have evinced evil symptoms, are constrained to acknowledge something of the same kind of fear of this drug that a person is apt to feel toward a dog by whom they have once been bitten. Some have ceased to employ it entirely.

While it cannot be denied, from the present report of cases, that cocaine has acquired a dangerous reputation, yet it is possible that amid the enthusiasm with which it was first received, and has since been used, many lacking an adequate knowledge of its different effects, which experience alone could render, by being unwary of lesser tokens, have been unprepared to ward off the more violent and dangerous symptoms, which a resort to immediate measures might have prevented.

It is scarcely necessary to mention that the administration of the other anæsthetics in common use is not de-

[1] Case spoken of by Dr. Keyes, Sajous' Annual for 1889.
[2] Journal of the American Medical Association, 1887.
[3] Recueil d'Ophthalmologie, October, 1888.

void of risk, and they too, undoubtedly, in their early career, had their "chapter of accidents." It is only through long experience and a careful study that we are now enabled to give them fearlessly; and by having attained a knowledge of the complications which are liable to be met, are prepared to combat them when they arise; so that, at the present day, cases of disaster are comparatively rare. Their administration is entrusted to a special assistant, who continually keeps watch over the patient's general condition. Of course, as cocaine is only used locally its employment can hardly be compared to that of the general anæsthetics. But these facts are intended to suggest that a proper knowledge of its untoward effects, a careful watch for bad symptoms whenever it be used, together with future experience, are the means through which we will learn to more clearly understand this drug. If it be always used with stimulants, and such antidotes as morphia, strychnia, and nitrite of amyl near by, and someone at hand other than the operator to take alarm in case of emergency, there certainly will be less risk in its employment.

In regard to the strength of the solution to be employed, except in special cases a four or five per cent. is most commonly used where the surface to be anæsthetized is large, and where it is of small area a few drops of a ten per cent. solution.

Those who have had much experience in its use report severe symptoms following the weak, as well as the stronger, solutions in quantities relatively small. There exists, therefore, a great difference in individuals in their power of resisting its toxic influence.

A weak power of resistance may be acquired by an habitual or constant use of cocaine, and this I believe to be the explanation (if it be ascribed to cocaine) of Dr. Belfield's case, which has been mentioned, and upon whom, it will be seen, subsequent to an internal urethrotomy, two drachms of a four per cent. solution were used prior to each introduction of the sound, producing, possibly, a chronic hyperæmia of the kidneys, which eventually became overloaded; and of the case in *La Medicina Practica*, December 15, 1888 (Dr. Lettier), violent symptoms were aroused by a four per cent. solution of cocaine in the bladder, the patient being in the habit of injecting, himself, an ounce or more of a similar solution into his bladder every day; and of other cases, where there is a sudden appearance of toxic symptoms in those who have for some time previous resorted to the use of cocaine.

In order to obtain the best local anæsthetic effect of cocaine, it is well to wait ten minutes after its introduction, during which time any tendency to constitutional symptoms may be detected.

In operations where it is practicable, the application of a ligature above will retard its entrance to the general circulation, and enforce its local influence.

The value to the surgeon of such a local anæsthetic as cocaine has proved to be, can hardly be estimated; and it is to be hoped that time and experience will help us to extend its usefulness, as well as overcome its present defects.

46 East Thirtieth Street.

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Where are the Allopaths?—An act has recently been passed by the Legislature of Tennessee to regulate the practice of medicine and surgery. According to this act, one of the requisites for the practitioner is the possession of a diploma from "a legally chartered allopathic, homœopathic, or eclectic medical college." The act also creates a board of medical examiners, and provides that "the three schools of medicine, viz., Allopath, Homœopath, and Eclectic shall be represented on said board." There may be some "allopaths" in Tennessee, and if there are, they are doubtless entitled to a representation; but it seems hardly fair to exclude altogether the regular practitioners of the State from the board of examiners, or not to recognize the diplomas of regular medical schools.

## A CLINICAL NOTE ON THE USE OF CREOSOTE IN PHTHISIS.[1]

By JAMES E. NEWCOMB, M.D.,
Assistant Physician Roosevelt Hospital Out-Patient Department.

My experience concerns sixteen cases treated at the above-named institution, and two in private practice. For various reasons the latter two cannot be considered as bearing on the efficacy of the treatment. Of these 16 cases, 11 presented consolidation, 2 cavities, and 3 both, *i.e.*, consolidation at one apex and a cavity at the other—advanced cases. Of the 16 there were 8 of each sex. The average age was twenty-five, the youngest thirteen and the oldest forty-six. The average duration of treatment was 78 days, the shortest 40 and the longest 141 days. The average duration of the disease, as ascertained by the symptomatic history given on application for treatment, was 28 weeks, the longest 72 and the shortest 2 weeks. In one case the patient felt perfectly well till the occasion of his taking cold, when he immediately applied for treatment and was found to have commencing consolidation at the left apex. Another patient had had lung trouble several years, and this too is not of the above number. The average is reckoned on 14 cases. In 5 cases there was a family history of phthisis. In 8 the temperature was normal; in all the others more or less pyrexia. Night-sweats were present in 11. There was a history of distinct loss of weight in 12. In 12 there was hæmoptysis. In all, if the cough was at all severe, a simple cough medicine was used of antimony, ammonium muriate, and small doses of morphine in differing combinations. Creosote was given only by the mouth. The formula I have followed was as follows:

℞. Creosote,
Tinct. capsici.....āā ʒ iij.[2]
Mucilag. acaciæ ..... ℥ ss.
Water .....ad ℥ iv.
M. S.: Dose, one teaspoonful well diluted in water after meals.

In 11 there was unconditionally no gastro-enteric disturbance from the remedy.

| | | | | | |
|---|---|---|---|---|---|
| Cough lessened in | 8, | cured in | 2, | unaffected in | 3 = 13. |
| Fever " | 4, | " " | 1, | " | 3 = 8. |
| Sweating " | 5, | " " | 1, | " | 4 = 10. |
| Weight lost | 4, | gained | 4, | " | 8 = 16. |

To summarize: seven cases were apparently not in the least improved, 7 were distinctly benefited, and 2 I regard as cured. At the time of their last examination there was not the least sign or symptom of any active process going on in the lung. They felt as well as ever. Were able to do their usual work. One had been under observation fourteen weeks, and the other twenty weeks.

In collating these cases I have decided, in every doubtful point, against rather than for creosote. I am well aware that these observations are defective as regards the influence upon the bacilli. When they were begun it was with no intention of presenting them in this public manner, and examinations of the sputa were not made. I feel conscientious, however, about the diagnosis, and I am bound to say that creosote has done more in my hands than any other remedy I have ever used. Of all the cases of phthisis I had seen, up to the time of beginning creosote, in a hospital experience of eighteen months and out patient service of four years, I had never seen but one case cured on the usual treatment of tonics, cough-mixtures, and cod-liver oil.

Concerning the *rationale* of the action of creosote, I believe that it is a direct antiseptic and disinfectant. I do not know whether it is a specific against the bacillus. I think not. I believe, however, that it is not irrational to expect that such an one may be found. I think, too, that the sclerotic change which results on the arrest of tubercular invasion is not so much the specific effect of creosote as nature's process, set up when the virulence of the poison is checked.

[1] Extract from a paper read before the Hospital Graduates' Club, April 18, 1889.

[2] If under twenty years of age, ʒ ij.

## CASE OF COMPOUND TRIPLE DISLOCATION OF THE LEFT ASTRAGALUS, WITH COMMINUTED FRACTURE—RECOVERY, WITH A USEFUL FOOT.

By WILLIAM A. GOTT, M.D.,

VIROQUA, WIS.

The case under the above caption presented so many interesting and, I may add, instructive features during the time it remained under my immediate supervision—a period of over three months—that I have thought it worthy of being placed on record in the columns of The Medical Record.

In order that a definite idea may be formed of its progress from first to last, it will be necessary to enter somewhat into detail. It is my purpose to do so in as concise a manner as will suffice to give a clear understanding of the main points the case presented during the time it remained under treatment.

It will suffice, for the present, to say that from the time the patient received his injury to that in which the safety of the foot was an assured fact, grave and apparently insurmountable difficulties beset the progress of the case, and so far compromised the integrity of the limb, to say nothing of the life of the patient, as to call for the consideration of the question of amputation.

Surgical authorities, without exception, agree in the opinion that dislocations and fractures of this bone, simple and compound, are not only of rare occurrence compared to other less severe injuries of the bony structures, but of great severity as well in the majority, if not in all, of the cases, and consequently of the gravest import, imperilling oftentimes the integrity of the limb, and perhaps the life of the patient also; and, no doubt, those of the profession who have been privileged to have under observation a case of the kind will confirm their statements in these particulars. Judging from my experience in the case to be described further on—the only one that has come under my observation and care during the course of a general practice of over thirty years, three years of which time were spent in the capacity of a medical officer during our late Civil War—I can truly say that, so far as difficulty and, it may be added, uncertainty of accurate diagnosis is concerned, no other class of bony injuries will bear comparison. The reason for this is obvious. As is well known, intense inflammation and enormous tumefaction invariably attend these injuries, of a more pronounced character than the same conditions met with in lesser injuries of the ankle-joint, as a severe sprain, or a fracture of both bones of the leg in that vicinity; and these same conditions, in an aggravated degree, so obscure for a while the normal contour of the joint and foot as to render a differential diagnosis a matter of difficulty, and oftentimes of impossibility. What has been the experience of eminent surgical authorities, both at home and abroad, in regard to these injuries, has likewise been the experience of surgeons of lesser note, as found recorded in the current surgical literature of the day. There is, perhaps, no class of injuries to which the human frame is liable in the pursuit of the various daily avocations of life, which the medical man is called to treat, that require the exercise of more sound judgment, acute discrimination, and prudent caution; and, certainly, no other in which he is more liable to err by reason of too hasty a diagnosis, because of the conditions already spoken of, and, moreover, in which his professional reputation in the estimation of both the patient and his sympathizing friends, especially when an opinion, which subsequent developments prove to have been erroneous, has been too hastily given, is more at stake than in the one under consideration in this paper. In the case soon to be detailed the force of some of the above statements is well shown, as will be seen, and will doubtless serve the purpose of making the medical man who may be summoned to treat an injury of this character more than usually guarded in his opinion until such time as later developments point out conclusively his line of conduct.

Case.—On the morning of June 15, 1886, I was called to visit C. B——, residing several miles in the country, twenty-two years of age, of spare, but wiry build, and a constitution somewhat impaired by reason of alcoholic excesses. Was informed that in the early evening of the previous day his team, which he was driving on the highway near his place of residence, took fright, became unmanageable, and ran away. In his efforts to control the thoroughly frightened animals he was thrown out of his wagon upon the whiffletrees in such a position as to fasten with a vice-like grip his left ankle between the evener and whiffletree on the right side, and in this position, with his body prone between the wheels, he was dragged at a high rate of speed the distance of several rods along the highway and through the dense brush into which the maddened animals finally plunged, and in which they became so entangled that their farther progress was out of the question. As soon as his team came to a stand-still his foot was released and he fell to the ground. When he had recovered from the shock of the accident he was assisted to his home by a couple of travellers who happened along at the time. After resting awhile he proceeded to make an examination of the injured part in order to "size up," as he expressed it, if possible, the nature and extent of his injury, and, having detected a "bunch" on the anterior aspect of the ankle-joint, he very naturally came to the conclusion that it had become displaced and that consequently its reduction should be attempted without delay and before the swelling, already forming rapidly, became any greater. A resolute fellow naturally, he directed his attendants to make extension and counterextension, and another to make pressure on the "bunch" alluded to; these efforts were continued for two or three minutes when "a loud snap" was heard and the bunch found to have disappeared; consequently all thought that reduction of the joint had been effected and that, so far, all was well.

After listening attentively to the above statement of the patient, I proceeded to make as thorough an examination of the part as it was possible to do without the aid of an anæsthetic, which, unfortunately, was not at hand. Sixteen hours had elapsed since the receipt of the injury. I found the lower third of the leg, the ankle, and foot enormously swollen, tense, and tender, and on the anterior aspect of the joint a strip of excoriated integument of a dull white color and mottled appearance, three inches in length and an inch in width, and which appeared to have been deprived of its vitality by reason of the undue pressure to which it had been subjected between the opposing bodies alluded to. Unable, after long-continued manipulation, to detect the usual signs of a fracture or dislocation, and owing to the excessive swelling of the parts by which the natural contour of the joint was for the most part obscured, I felt at a loss to determine the real nature of the injury—whether a luxation, fractures of one or more of the larger tarsal bones, or both combined, had been received; yet at the same time, in view of the peculiar circumstances under which the injury had taken place, together with the general appearance of the limb, its uniform and excessively swollen condition, far in excess of that usually seen in severe sprains of the same joint, I felt convinced that the ankle-joint had sustained an injury of the gravest character, the final outcome of which the future alone would disclose.

The patient, on being informed of my rather gloomy view of his case, was not disposed to accept it as conclusive; on the other hand, he strenuously insisted that his ankle-joint had been displaced, and properly replaced by the efforts of his friends. Here, then, was an instance in which physician and patient could not agree; and while the one was in a measure non-committal for the time being, by virtue of the inherent difficulties attending the case, and consequently guarded in his utterances as to prognosis—as a medical man is in duty bound to be who has any regard for his professional reputation and at the

same time takes into consideration the contingency of a suit for alleged malpractice because, perhaps, of an expressed opinion in an unguarded moment and under the stress of persistent solicitations on the part of both the patient and his sympathizing friends—the other was positive and emphatic in his opinion, ignoring probabilities as unworthy of consideration and, therefore, needless to be entertained. In his view of the matter the patient was both right and wrong, as will appear later on.

Notwithstanding the fact of the apparent difference in opinion between physician and patient, I obtained his consent to place the limb in a fracture-box for better security, improvised from such materials as happened to be within reach, and for the speedy abatement of the inflammatory action that had taken place and was still in progress to employ cold water irrigation until such time as I was able to visit him again. On the fifth day following I again visited the patient, to find him in good spirits, with little or no pain and a marked improvement in the local symptoms under the employment of the cold-water irrigations directed on the occasion of my first visit; so much so, in fact, that gentle manipulation was no longer necessary. The strip of integument previously mentioned had become gangrenous, dry, and shrivelled, while a line of demarcation had formed on all of its attached sides, along which the dead and living parts touched; beneath the central portion of this strip, but obscuring it from view, was felt what appeared to the touch a rounded, smoothly convex surface, and slightly movable from side to side under firm pressure. It now appeared evident that this was the astragalo-scaphoid articulating surface, and that the astragalus had sustained a fracture through its neck, with its fragment so displaced as to present the articulating surface just mentioned directly upward and transversely. In this view, it will be seen further on that I was grievously mistaken. In justice to myself, however, I will say that had the patient at this visit consented to a thorough examination of the ankle, as he was urged to do, involving necessarily an enlargement of the existing wound, the real nature of the injury would have been speedily disclosed and the proper operative measures instituted, without, as was the case, the long, not to say dangerous delay, before anything of a radical nature was attempted. To this, however, he stubbornly refused to give consent, for reasons already stated. At this juncture of affairs I was half-inclined to retire from the further supervision of the case, for reasons that will appear manifest to those who have been placed under similar circumstances, yet at the same time it must be confessed that I was anxious to keep it under observation on account of its rarity, comparatively speaking, as well as its peculiar nature, involving a large and important joint. At this visit I induced the patient to consent to the application of a plaster-of-Paris cast to his limb, in order to secure absolute rest to the joint.

Without entering into more extended and, perhaps, unnecessary details, it will suffice to say that during the interval in which this dressing remained *in situ*—a period of sixteen days—a rapid decline of the local symptoms took place; the tenderness and tumefaction of the parts so far subsided as to permit the patient to go about on crutches and avail himself of out-of-door exercise without much inconvenience. The patient was finally induced to submit to an operation, and for that purpose came to this place on July 5th. On that day the plaster cast was removed, preparatory to the operation on the day following. On its removal the tumefaction was found to have quite disappeared, the long, narrow wound remaining after the separation of the gangrenous integument cicatrized at either extremity, and its central portion presenting a healthy granulating surface, from the bottom of which the rounded head of the astragalo-scaphoid articulating surface protruded, and still somewhat movable from side to side.

On the morning of the sixth of the month named above, twenty-one days after the receipt of the injury, after the parts had been made aseptic and the patient placed under the influence of chloroform, the operation was made, in which I was ably assisted by Dr. A. B. Bickford, of California, temporarily on a visit to relatives, and Mr. Frank Morley, a student of medicine in my office. The original wound was enlarged at either extremity for a short distance, and by a vertical incision parallel with the flexor tendons; after which the index-finger was introduced into the wound for the purpose of exploration. I soon found that the neck of the astragalus was intact, and that the entire bone had been dislocated in such a way as to have abandoned all of the articulating surfaces to which it is applied, tibia, fibula, calcaneum, and scaphoides; in other words, its scaphoid articulating surface looked directly upward and transversely, or nearly so, its superior or trochlear surface backward, and its inferior surface forward. As far as could be determined by the exploring finger, the bone, as it lay in its abnormal position, was thought to be intact, at the same time that the finger could not be made to reach to the bottom of the cavity for want of space. The bone was still firmly held in its anomalous position by its ligamentous attachments, which required division before its extraction could be effected. After its removal, examination showed that it had sustained a comminuted fracture—its entire posterior surface having been literally ground off, so to speak, by the force applied, including, of course, the groove which transmits the tendon of the flexor longus pollicis, with nearly one-half of the posterior articular facet on its inferior surface and of the trochlear surface as well. After the removal of the bone a number of small fragments were removed with the forceps, and the débris remaining at the bottom of the deep cavity washed out with carbolized water, the wound duly drained, dusted with iodoform, and lightly dressed with antiseptic cotton, the open method of treating such a wound being deemed preferable to that in which sutures, adhesive strips, and bandages are employed, and the limb firmly secured in the bracketed wire splint represented in Ashhurst's "International Encyclopedia of Surgery," vol. iv.

Without entering into the details of the case as it progressed from day to day, it will be sufficient to say that for a few days its aspect was everything that could be desired. On the sixth day, however, a change for the worse took place. A high grade of inflammatory action of the remaining structures of the joint supervened, attended with the usual accompaniments of inflammatory action, and progressed with such rapidity and intensity that within twenty-four hours from the time of its approach the inferior half of the limb was as greatly and uniformly swollen as at the time I first saw the case; and, as may be supposed, severe constitutional symptoms added to its gravity. These symptoms continued with varying intensity for nearly three weeks before any well-marked signs of amelioration in either were observed; and, it is proper to add, so far compromised the safety of the patient as to call up for consideration the question and propriety of amputation of the limb as a last resort, as already stated. Fortunately, however, for the patient, and in spite of his oft-repeated clamorings for release from his suffering by the sacrifice of his limb, the more alarming features of the case gradually gave place to other more favorable features under the judicious use of quinine, morphia, and, especially, cold-water irrigation, for the space of nearly three weeks. From this time the case went on gradually toward ultimate recovery. After the deep wound had healed, with but a trifling amount of suppuration from first to last, as soon as the state of the parts admitted, systematic passive motion was employed at frequent intervals, and continued until flexion and extension were almost, if not quite, as good as in the sound foot—a gratifying result to both patient and physician, surely; and, I may add, altogether unexpected from the first. He was finally discharged from under my care in the latter part of September following, three and one-half months from the time his injury was received.

Before closing this paper I cannot resist the impulse to say a few words in commendation of the cold-water irrigation employed in the case. In my opinion, it proved to be the most effective weapon for good that could have been employed, and I am well convinced that by no other method could the severe local symptoms have been so successfully combated as proved to be the case in this instance. By its unremitting use for days and days the deep wound was kept clean and aseptic, the local heat and pain within endurable limits, and the tumefaction at rest; in short, as the patient expressed it, it conduced more to his comfort than all other treatment combined.

A few words in regard to the condition of the foot something over a year from the time of his discharge from under my care, before concluding. At this time he informed me that, with the exception of a slight limp, walking is attended with no difficulty, and with little or no fatigue, even when a long distance has been covered; and that, as far as he can determine, his left foot, for all practical purposes, was as good as his right.

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## ON A VISIT TO BIRMINGHAM AND TO MR. LAWSON TAIT.[1]

By J. MILNE CHAPMAN, M.D., M.R.C.S.,

MEDICAL ATTENDANT TO THE NORTHERN INFIRMARY, INVERNESS, SCOTLAND.

As I had the advantage during February of seeing Mr. Tait at work for a fortnight, and of enjoying frequent opportunities of personal communication with him, I have thought that an account of the time so spent might be of interest to the members of our society, and might not perhaps be without profit.

In the first place I may warn those who, like myself, may be anxious to see Tait at work, that it is no very easy matter to do so, at least it does not appear to be, though I am quite sure that he will specially welcome any one coming to him from the North of Scotland, where he himself first saw ordinary medical practice. He is a Scotchman heart and soul, and delighted to talk to me of his experience while acting as *locum tenens* and assistant to Dr. Soutar of Golspie. He receives very numerous applications from practitioners anxious to see him operate, but as the bulk of his work is private, and is undertaken in ordinary sized bed-rooms, it is impossible for him to gratify them all. The story is told of one of our transatlantic cousins who, on one occasion, presented himself in Mr. Tait's consulting room about mid-day, and after greeting him and expressing his pleasure at meeting him, introduced himself and stated that he had just arrived that morning in Liverpool, was on his way to London, and had stopped on the way to see him operate. He had only an hour or two, but would like to see him do one or two sections. This, of course, is an extreme case, but the applications were so numerous, not only to see one operation, but to be allowed to see twenty, thirty, forty, or one hundred cases, that Mr. Tait felt compelled to institute a system of pupilage which is now in operation. He receives four post-graduate pupils for periods of six months at a fee of one hundred guineas. For this they are privileged to see all operations in the same way that I was, and which I shall presently describe, and also, two at a time, they attend with him when he sees his hospital outpatients on Mondays and Thursdays. This seems a heavy fee for such advantages, but there is no doubt that it is a good speculation for his pupils, and he has many more applications than he can comply with. Those who have already passed through the system and are now at work, in America and elsewhere, have succeeded in speedily establishing for themselves positions and practices which they might not so readily have obtained otherwise. America is an enormous country, and possesses numerous large cities, and, therefore, openings for such specialists as are thus trained.

On my first presenting myself to Mr. Tait on the day of my arrival in Birmingham, he took me to his secretary's room, and instructed her to send me word of when operations were to take place, and I was told there was to be one that afternoon at 2.30. At that hour I accordingly returned to the house and was shown into a small drawing-room in the hospital wing, where I was presently joined by his pupils. After waiting a little, a nurse opened the door, and we all trooped upstairs into a small, ordinary bed-room with white painted wooden floor and strips of carpet. Resting with its lower end against the window sill, was a narrow operating table with the patient already anæsthetized. Mr. Tait, in shirt sleeves and holding a small knife between his lips, was standing by the patient's side. No greetings were interchanged even by look, nor was a word spoken. One of the pupils rapidly washed his hands and took up his position opposite as assistant. This post, however, is almost purely a sinecure, as Mr. Tait does practically everything himself. The making of the abdominal incision was the work of less than sixty seconds, and what particularly struck me was the way in which he handled his knife. Never in all my experience have I seen anyone make a knife cut like he does. The instrument is a narrow-bladed short scalpel, and he lays it down so that the whole length of the blade cuts. The effect is like that of cutting butter with a good table-knife. You hardly notice any motion, but the tissues separate in front of the knife and the incision is made, clean down in many instances to the peritoneum. One or two touches at most make the wound even from end to end, and then he picks up the peritoneum in two pairs of pressure-forceps and cuts straight down between them, the assistant meanwhile holding one of the two pairs; these are then removed, he runs his knife up and down the peritoneum and the abdomen is open, actually in a shorter time than it has taken me to read this description, and with a neatness and dexterity which I fear no words of mine can fully convey. The case I speak of was one of fibroid tumor, in size about that of a four months' pregnancy. Mr. Tait rapidly enlarged the incision up and down by putting the tissues on the strain with two fingers in the abdomen and running his knife inside the abdomen edge upward, the whole wall splitting with as much apparent ease as the leaves of a book before a good paper-cutter. He inserted his hand behind the tumor and worked about for a time. As there was nothing to see of the operation at this time I turned my attention on the operator's face. It is a curious face, as those who have seen it will readily admit, long and large featured in every respect, except the mouth, which is unusually small with thin, firmly compressed lips. A heavy band of hair—which is long and black and glossy—hung down over the forehead and eye, but what then impressed me was the rigid concentrated attention expressed on every line and feature. The eyes were turned upward to the corner of the window, but were very evidently looking at nothing. Presently he said "Trocar," and a long curved one being handed to him, he took it in his right hand and pulled the point back till it was within the cannula, and slipped the instrument down in front of the left hand, which was still within the abdomen. Having settled its position, he held it secure with his fingers on the cannula shield, and having with the thumb slid the trocar forward, he pushed the instrument still deeper, and on withdrawing the trocar, there gushed out about a pint of thick offensive pus. He then said that there was the same condition on the other side and asked for the aspirator, but meanwhile continued to work away at the sac from which the pus had come, and presently brought it to the surface, a hugely dilated Fallopian tube of the right side. He tied the pedicle in the Staffordshire knot and removed it. He then went to work on the other side, but the sac burst, and he simply squeezed the pus out, fished the sac to the surface, and ligatured straight away. He then brought a

[1] Part of a paper read before the Inverness Scotland Medical Society, March, 1889.

third mass up from behind the uterus—oval, and as large as a breakfast-roll, which turned out to be a dermoid cyst of the right ovary. The pedicle of this was secured in the same way. At the time he gave this third mass not a moment's consideration, but laid it aside, proceeding to wash out the abdomen, using three large pailfuls—about the size of stable buckets—of warm water, running through an ovariotomy tube and trocar. During the process of washing out he moved the contents of the pelvis and the intestines freely about with the left hand to secure their being thoroughly cleansed. Looking at the uterus, he determined that it contained a fibroma, and impressed by the amount of mess that was about, he resolved at once to remove it. As his method of doing this is fully detailed in his writings, I shall not enter into a discussion of the process; suffice it to say that the neatness and dexterity he displayed forced the conviction on me that I was witnessing the performance of a real professor of the surgical art, and thrilled me with a sensation which a lover of music, who had never heard other than second- or third-rate performances would feel, were he suddenly to hear the strains of a Paganini.

But to complete the history of the case under consideration. It was found that an adhesion which had existed between the rectum and the tumor on the left side was persistently oozing. There was no room for ligature, and Mr. Tait first tried pressure with a sponge. As this failed to stop the oozing he rubbed the surface over with a piece of solid perchloride of iron, and as even this did not completely succeed he made a watery solution of the perchloride and applied it with a sponge. He then dried out the abdomen with sponges, inserted a drainage-tube, and stitched up the wound. The whole operation took fifty minutes, an unusually long time for Mr. Tait to take over any operation.

Here I would say a word as to a use of the drainage-tube which is but imperfectly understood, and that is its good effect in stopping bleeding from torn adhesions. Blood effused into the abdominal cavity shows little tendency to coagulate save in a very fitful and fragmentary way, probably from its admixture with peritoneal fluid. If, therefore, there is oozing from torn adhesions into a completely closed abdomen the blood does not coagulate fully, its presence sets up free secretion of peritoneal fluid, which reacts and leads to further bleeding and still more defective coagulation; while, on the other hand, if a drainage tube is employed and the pelvic cavity kept dry by frequent withdrawal of blood and serum, oozing will soon cease.

The operation in question having been completed we—that is, the pupils and myself—silently left the room and soon left the house. Next morning I got a postal card saying that there would be two operations at the Private Hospital at 9.30 A.M., and one at the Woman's Hospital, Sparkhill, at 2.30 P.M. The first was a doubtful case of distention of the gall-bladder. In less than five minutes Mr. Tait had opened the abdomen over the region of the gall-bladder, established the diagnosis of malignant disease of the transverse colon or omentum, and closed the wound. I learned afterward that the patient left the hospital in a week, none the worse. Of course, had the case turned out to be one of gall-stones she would have been relieved of her trouble there and then. In the afternoon I saw an ordinary case of removal of the uterine appendages. I shall not stop to discuss this class of cases; the one that I saw on this occasion was certainly an instance where the operation was perfectly justifiable, judging from the condition of the parts removed. When the operation began I took out my watch to time it. Having carefully looked at it I put it in my pocket and turned to the operating-table, when, to my surprise, I saw that the abdomen had been opened and Mr. Tait was fishing with two fingers of the left hand (which was all the incision would admit) for the diseased organs. On getting these between his fingers he slipped down a pair of forceps, seized them, and in this way brought them to the surface, at the same time pressing down the abdominal incision and walls with the back of his hand and holding the ovary and tube between his fingers. He then passed the ligature through the pedicle, ran the loop over the appendages, arranged the Staffordshire knot, pulled each end firmly, tied a single knot, and then fastened a pair of catch-forceps on each of the threads, wound the thread three or four times round the handle of the forceps, and seizing a pair in each hand he let go the ovary and firmly pulled the knot tight. This method of securing the knot he carried out without the slightest assistance and while he held the parts to be removed in his own hand. I describe it thus in detail in the hope that I may convey to you some idea of the marvellous dexterity of the man. The other side was similarly dealt with, and the operation was completed in ten minutes.

Mr. Tait only spoke once during that time. Just when the patient was laid on the table, the Sister who was giving the anæsthetic put out her hand to lift the arm on the table. Tait tapped her on the shoulder and said, "Attend to your own business." This is quite characteristic of the man. He has everything reduced to a perfect system, and everything goes on with just such steady regularity and apparent simplicity as do the manœuvres of a well-drilled regiment of soldiers. Trespassers, however, even be their fault as slight as the one I have just mentioned, are at once rebuked, just as the soldier would be who ventured on any irregularity during parade.

Among the other cases I saw operated on were a simple ovariotomy, which was completed in five minutes, neither sponge nor fingers having been placed within the abdominal cavity, and the incision being not more than one and three-quarters inch long; a difficult ovariotomy; removal of tubes containing pus; removal of one ovary and tube glued together and adherent to the back of the uterus and floor of the pelvis, the other ovary having been removed five years previously. In passing I may remark that Mr. Tait has ceased to remove single ovaries (except for cystic disease), as his experience is that for inflammatory mischief a second operation always becomes necessary sooner or later. I was also present at a hysterectomy and at an exploration of the kidney. In this latter case I saw illustrated the value of pressure in checking hemorrhage. The wound was of course a very deep one, the pelvis of the kidney being opened into, and the bleeding was very free, much freer than mere oozing, but, to reach the bleeding-points would have involved enlarging the incision very much. The wound was packed full with dry sponges, and these were firmly held down by the hand for two or three minutes. On taking them out the bleeding was markedly diminished but had not ceased, so the packing was repeated and again repeated, when it was found that the wound remained dry. A drainage-tube was inserted, and the stitches were tied with a running-loop knot, with long ends so that they might be undone if required. Instructions were left that should hemorrhage occur a solution of perchloride of iron was first to be injected through the drainage-tube, and that should this not succeed in checking it, the knots in the stitches were to be slipped, the clots cleaned out, sponges wrung out of perchloride of iron inserted and firmly packed in. The sponges that were used were simply wrung out of plain water.

I have since learned that all the patients I saw operated upon made prompt and good recoveries.

One thing I saw Mr. Tait do which I certainly have no intention of imitating him in. He used two of the fingers of his left hand as a sort of Sims speculum, and, kneeling by the bedside with the window facing him—the field of operation therefore completely in the dark—he freely curetted the uterus without in any way fixing it. He then inserted a short Ferguson speculum, and through this passed into the uterus a thermo-cautery. No doubt the cervix had been previously fully dilated, and probably the end in view was satisfactorily accomplished, but I hardly think the somewhat free-and-easy method I have described

will commend itself to the profession at large. Though Tait may manage to dispense with the ordinary aids of speculum, light, and vulsella, the general run of us, I think, had better continue to perform our curettings in a more orthodox fashion.

I was disappointed in not being able to see Mr. Tait perform the operation which bears his name for restoration of the sphincter and perinæum, as the written descriptions of it are not very easy to follow. I talked it over with his assistants, and they told me that he only takes five or ten minutes to do it.

It may have struck you that I have alluded to two operations which went no further than exploration, one of the liver and one of the kidney. And here I would say a word in regard to Mr. Tait's position on the subject of exploratory or confirmatory operations, for, in respect to this more than to almost any other question, he has been very greatly misrepresented, and I shall, as far as possible, make use of his own words. We have all heard him spoken of as a man who "would put his hand into a woman's abdomen with as little compunction or reflection as he would put it into his trousers pocket;" and also we have heard him quoted as saying, when in doubt as to diagnosis, "open the abdomen and find out;" or, even still more grotesquely, he has been accused of not being able to make a diagnosis in the ordinary fashion, but of opening the abdomen and taking a look in when there is a complaint of anything inside, and of doing this in as much a routine fashion as one opens the mouth and looks in where there is a complaint regarding the throat. Let me quote his own words:

"I have long since thrown the uncertainty of diagnosis, as an impediment to the adoption of proper treatment, to the winds, and when I find my patient in danger of death from conditions within the abdomen which do not seem to be clearly of a malignant character, but a correct diagnosis of which is impossible, I open the abdomen and at once make the diagnosis certain and successful treatment possible."

This was written in 1876, and further he says that he does "the same things when the conditions were such that the patient's life was a misery by reason of suffering which could not be relieved, or at least had not been relieved in any other manner. The result has been an enormous advance in abdominal surgery, obtained only after a severe struggle with the authority of the elders who asserted that the abdomen was a region into which the writs of ordinary surgical laws should not run."

As a defence of exploration I would further quote from Mr. Tait's writings: "This principle of exploration is nothing new. In fact, the way it is sometimes used, or rather abused, is almost horrible. I once saw a surgeon, who is now a baronet, remove a breast with a tumor in it, and after the whole thing was over he took the tumor in his hands and drew his knife across it and out rushed a lot of pus—'laudable pus.' He had made his exploration after the treatment had been completed. If he had explored first, his diagnosis would have been completed before his blunder had been made, and the radical operation and treatment would have been rendered wholly unnecessary. I have similarly seen a limb amputated for a sequestrum opening into the knee-joint which a preliminary exploration would have shown to have been capable of removal without amputation, and the limb would have been saved. Crowds of illustrations of this kind of practice could be given, showing in the first place that complete accuracy of diagnosis is no more possible in the breast than it is in the abdomen; that exploration is a sound principle when there is doubt, and that many ghastly blunders would be saved if the practice were extended into general surgery. Absolute accuracy of diagnosis in the abdomen is very far from being possible; only the ignorant assert that it is, and only fools wait for it."

More than any man, or, I might almost say, single-handed, Mr. Tait has established this principle of exploration in doubtful cases of abdominal disease when life is threatened. He has been the better able to do so from his extraordinary success as an operator. But what one man has done another may do, and I can quite well foresee that before long it will be considered as bad practice to allow such cases to die without operative interference as it would now be to leave a man blind from cataract without giving him the chance of again enjoying the blessings of sight, for fear that an inflammatory attack might necessitate removal of the whole eye.

Another charge that is freely made against Lawson Tait is that he does not tell the truth. The statements he had to make regarding his work in the earlier years of his practice were so startling and novel that they were not at first accepted as true. Time—the righter of all wrongs—has proved by results that the facts and theories then advanced can, and have, stood the test of experience, and though Mr. Tait's theories and deductions are not very generally accepted as correct, the impression caused by their startling enunciation still finds expression in the charge of untruthfulness I have just mentioned. Now, it is absolutely impossible for Mr. Tait to tell lies regarding his operations or his results. Of the four pupils who watch every operation, each keeps an accurate note-book for his own reference and use, in which he details everything that happens both in Mr. Tait's hospital and private work. This has gone on for years; Mr. Tait's results are published down to February 2d of this year, yet they have never been questioned by any of those who, had there been occasion and justification, could have done so successfully. Nay, I may say more, that I have met eight or ten of Mr. Tait's past pupils and not one of them doubts a word he ever said. They have seen what others have not seen. They have had personal opportunities of detecting any such tendency to perversion of the truth, but one and all they have expressed their unbounded admiration for the man and for the surgeon.

I had myself good opportunities of forming an estimate of the character of the man. We spent together from Saturday to Monday at Malvern, as guests of an old Scotch practitioner there, and many were the topics that we discussed. I do not wish to make this anything of the style of the modern society journal, so I shall not enter into the private life of the man, I shall only say that I found, as I was fully prepared to find from a perusal of his writings, that he is a man of master intellect, that the range of his knowledge is wide and far-reaching, that the accuracy of his knowledge of details is surprising, that his tastes are refined and cultivated to an extraordinary degree, and that his capacity for the enjoyment of recreation, amusement, and the good things of this world generally is unlimited. As to the type of his mind, I would say that it is essentially mathematical and scientific, and I would ask you is it not your experience that those possessed of minds of such a type are naturally and instinctively, as well as habitually and by training, rigid sticklers for the truth.

Before concluding I would briefly touch upon three outstanding departments of Mr. Tait's life-work. Already I have referred to what he has done in establishing the principle of exploration as applied to the abdomen. One outcome of his work in this direction has been his demonstration of the fact that very many of the cases where masses are felt at the sides of the uterus, and which are called peri- or para-metritis, and are treated as such, are really cases of occlusion and distention of the Fallopian tubes with fluid of various kinds, or of chronic inflammatory adhesion of tube, broad ligament, and ovary. There are also many cases in which the functional utility of the organs is completely destroyed by disease, and in which, further, the disease, such for instance as pyosalpinx, constantly threatens the life of the patient. Mr. Tait has demonstrated that cases such as these are quite amenable to surgical treatment. What suffering he has relieved and averted, what life he has saved and prolonged by these means passes my ability to conceive.

His work, too, in elucidating the natural history of uterine myomata, and in elaborating their surgical treat-

ment, is to my mind of the greatest interest and importance. His papers on these subjects at present appearing in the *Birmingham Medical Journal* will well repay careful perusal, and ought to prove an effectual antidote to the effects of the electrical mania which is at present rampant.

And, finally, there is what I consider the crowning triumph of his life, the establishment of the principle of immediate abdominal section in cases of ruptured tubal pregnancy, by his magnificent results—two deaths in forty-two cases of an accident which, without interference, is uniformly fatal.

## Clinical Department.

### NEUROTIC OR HYSTERICAL FEVER.

By CLARENCE KING, M.D.,

MACHIAS, N. Y.

MARKED elevation of temperature in hysterical individuals, unassociated with any visible structural cause to explain it, has received but little attention from medical writers, and those who have mentioned the subject have mostly done so to deny its existence. These either attribute the fever to fraud ingeniously practised by the patient or to an accompanying disease undiscovered by the physician. There are, however, in my opinion, a sufficient number of cases recorded by various observers to justify us in acknowledging this as one of the rare manifestations of the neurotic temperament. Thus Mitchell, as quoted by Mills,[1] has recorded a case of an hysterical female, thirty-eight years of age, whose temperature ranged from 95° in the morning to 100 or 100.5° F. in the evening, and whose pulse was never less than 130 per minute, even when lying quietly in bed. This patient was suffering from no pulmonary or visceral trouble, and no cause could be assigned in explanation of the elevated temperature aside from the neurotic influences. Debove, according to the same author,[2] cites a case of a female, twenty-four years of age, in whom the thermometer sometimes registered as high as 102° to 104° F., and in whom the mention of the somnambulistic state would raise the temperature from 1° to 2° F. Bressler[3] has also called attention to cases of elevated temperature lasting from a few hours to several weeks, which were associated with an accelerated pulse, vomiting, perverted appetite, and extreme sensitiveness of the abdomen. The disease usually began with sensations of chilliness, loss of appetite, constipation, furred tongue, and head ache, the temperature early reaching a high degree and remaining there, or being subject to sudden and marked variations. The pulse was usually increased in frequency. The disease was distinguished from peritonitis by the fluctuating character of the abdominal pain, absence of tympanites, ovarian tenderness, and variability of temperature.

In this connection a case occurring in my practice may be of interest to some of the readers of THE MEDICAL RECORD.

Lovina C——, female, married, aged twenty-one, mother of one child; neurotic temperament marked, inherited from father.

In June, 1888, I saw her professionally for the first time and found her in the fifth month of pregnancy, lying apparently unconscious in an hysterical attack. She had not been troubled a great deal with nausea; passed abundance of urine; bowels quite regular. Her friends told me that she had always had these "fits," but of late she had been quite free from them. I took her temperature twice and found it each time 100° F., her pulse being about 97. I could discover nothing to account for the fever. The following day she was around the house again.

Ten weeks after this I saw her again in one of her fits and found her much the same as at my former visit; temperature, 102° F.; pulse, 100. I took her temperature three times, twice under the tongue and once in the axilla, and sat where I could watch her while it was being taken. Each time the thermometer registered nearly the same. Again I could find no structural disease to explain the fever. The next day her temperature was 99.5° F., and I did not see her again, but her husband told me that after having several of these fits she "was all right again."

October 1st, I was called to attend her in her confinement. Upon my arrival I found her in the first stage of labor, again lying apparently unconscious in one of her fits, the os dilated to the size of a nickel, pains occurring about every twenty minutes and becoming more frequent and severe. Whenever she had a pain she would rouse up and groan, but after its subsidence would quickly sink into her former unconscious state. As her pains became more severe these fits were discontinued, and she was finally delivered, after a natural though somewhat slow labor, of an eight-pound male child. Imagine my surprise at my next visit, ten hours afterward, to find my patient with a temperature of 105° F., a pulse of 120, the bowels only a little sensitive to pressure, and everything else, so far as I could ascertain (and I made a thorough investigation), perfectly normal to a puerperium. The lochia was about normal in quantity and not fetid; bowels and bladder empty; no lung trouble, and absolutely nothing to explain the high temperature. She had no chills; the womb was well contracted; the breasts flaccid, and not tender or painful. For the next four days her temperature ranged between 103.5° and 105° F. She slept well, took some nourishment, but still had "fits" at irregular intervals. While I was still looking for evidences of phlebitis or other disease to explain the fever, her temperature and pulse suddenly dropped to about normal, and she made a fairly good convalescence. Her milk came the night following the day that her fever left her. Her friends told me that she had a similar complication when her other child was born, which had frightened the attending physician the same as it had me.

Three weeks after the birth of this child I saw the mother again in another of her "fits," and found her temperature 104° F.; pulse, 120. No lung trouble or disease in any organ, that I could find. This lasted two days, and suddenly dropped to normal.

Six weeks from this time I was again called to see her and again found a temperature above 104° F. and a pulse correspondingly high. All the indication of disease I could find at this time was a moderate diarrhœa. The next day her temperature and pulse were nearly normal, and her diarrhœa better. Since this time I have treated her for pneumonia, during which her temperature was only moderately elevated.

Here, then, are five observations in the same patient of high temperature with nothing to explain it. It might be urged that in each instance there was some positive disease present which I failed to detect; as, some may claim after her confinement the fever was due to puerperal infection, and in the last observation to diarrhœa. A temperature of 105° F. following childbirth is suspicious of puerperal infection, but can we base a diagnosis of infection on the fever alone? In this instance I was uneasy about my patient and called in consultation another physician, and he failed to find anything to suggest infection except the fever and pulse. Ten hours after parturition is early for infection to give rise to a temperature of 105° F., while we must admit that the excitement of childbirth would be a potent factor in producing hysteria.

In the treatment of this case the therapeutic measures employed were simple but efficient. Antifebrin was given only during the high fever following her childbirth. Hyoscyamus, valerian, bromides, tonics, etc., were prescribed in each instance, and baths, out-door exercise, and laxatives in the interim.

[1] Pepper's System of Medicine, vol. v., page 252.
[2] Op. cit. [3] MEDICAL RECORD, 1888

## SCIRRHOUS CARCINOMA OF THE BLADDER, WITH VESICO-RECTAL FISTULA.[1]

By THOMAS C. KENNEDY, M.D.,
SHELBYVILLE, IND.

The case presented is one of great interest, and is generally considered rare, probably on account of mistake in diagnosis, as was first made in this case. If a post-mortem examination had not been allowed, and it was positively refused when I first broached the subject to the friends, the correctness of diagnosis would not have been questioned, and the case would have passed for simple chronic vesical catarrh.

I was called to see Mr. J. D. M——, carpenter, aged seventy-two, April 16, 1888. When I entered the room he was sitting over a vessel trying to urinate. There was considerable vesical tenesmus and he was suffering great pain. He complained that the passage of urine produced a burning in the urethra, with a feeling of weight in the perineum. He had a sharp lancinating pain in the suprapubic region and over the right kidney. There was a constant desire to empty the bladder, which he attempted to do about every fifteen minutes. He had had a chill every day about 9 A.M. He was very restless the night before I saw him, and passed a few drops of highly colored urine four or five times an hour.

I introduced a soft-rubber catheter, and drew off two ounces of residual urine. I prescribed morph. sulph. (gr. ¼), to be given every three hours until relieved; also gave pil. quin. sulph. (gr. iij.) every two hours, with directions not to disturb the patient if asleep.

I remained with the patient about one hour; at the end of that time he was resting comfortably.

April 17th. Rested very well until about midnight, having been up seven times in six hours to empty his bladder. At twelve o'clock (midnight) he took another pill of morphia, but did not rest as well after midnight as he did before. He urinated sixteen times between midnight and 6 A.M. There was less pain in passing urine than there had been. The bowels acted slightly this morning.

At 5 P.M. of same day I found the patient quite comfortable. He had a light chill that morning, but rested well all day and slept about two hours in the afternoon. He passed urine twelve times in eleven hours.

An examination of the urine was made, with the following results: Sp. gr., 1.030, highly acid; is negative as to albumen and sugar, but shows an abundance of stringy mucus. I ordered hot fomentations to be applied over the region of the bladder, and also a hot hip-bath in the evening; morphine to be given to relieve pain, if necessary. Lime-water was to be drunk, to neutralize the acidity of the urine.

From this time the patient improved rapidly, pain was diminished, and the desire to urinate decreased. By April 25th he was able to be up part of the day, and, the weather being pleasant, he was permitted to be out in the yard a few moments at a time. This improvement continued until May 8th, when he was suddenly seized with a sharp, shooting pain in the urethra and perineum. The bowels began to discharge at 4 A.M. He had very copious evacuations for several hours, when the discharges became thin and slimy.

The urine was very offensive, having a strong fecal odor. I gave opium to control diarrhœa, without any notable effect. About nine o'clock he was taken with a chill, and had rigors for several hours. He complained of an accumulation of gas in the bladder, and said it caused great pain when passing through the urethra. The escape of this gas could be heard distinctly at a distance of three feet. A vesico-rectal fistula was suspected, but this could not be confirmed by a rectal examination.

The patient continued to go from bad to worse until, upon May 13th, I began the use of "lithiated hydrangea," and discontinued all other remedies except morphia in one-eighth grain doses. He improved again until June 11th, when he walked across the street and talked to a neighbor for an hour. He felt stronger, but did not attempt to do any work. On June 26th he walked to the post office, a distance of one-half mile, and stopped at my office on his way home. He said he felt well, except that he was "troubled by the blowing, before passing urine."

On July 29th I was hurriedly summoned to see him; the messenger saying that the old man was dying. Found him in bed complaining of violent pains in the bladder. Had a severe chill, followed with fever and delirium. Temperature, 104° F.; respiration, 22; pulse, 98. With the urine were passed small particles of fæces, and also shreds of broken-down muscular tissue. He had cleaned up his shop that day, and filed a saw. While he was still at work, he was suddenly seized with a cramping pain in his bowels and had to be taken to the house. From this time he began to lose flesh, lost all appetite, and a diarrhœa commenced that baffled all efforts made to check it. All the former symptoms of pain, vesical tenesmus, frequency of urination came up with renewed vigor and could not be controlled.

On August 14th Dr. Edward F. Wells was called in consultation. Acting upon his suggestion, we washed out the bladder with a weak solution of boric acid, from which the patient received temporary benefit. The patient continued to grow weaker, became emaciated, and on August 26th lapsed into a semi-comatose condition from which he could not be aroused. On August 30th he died from exhaustion.

About ten hours after death I held a post-mortem examination, being assisted by Dr. E. F. Wells. Drs. McFadden, Green, and S. A. Kennedy were present. A large tumor was found in the apex of the bladder, which also involved the entire body down to the trigone. On the posterior wall was an ulceration of a considerable size. Almost in the centre of this ulcerated surface a fistula of large calibre was found, connecting the bladder with the rectum. Inflammatory adhesions bound the bladder to the rectum, and there were also metastatic deposits found in the rectum and intestines. I sent a portion of the tumor to Dr. E. R. Palmer, of Louisville, Ky. After having made a careful microscopic examination, he pronounced it to be a scirrhous carcinoma.

At no time during the progress of the disease was there any hæmaturia, although Stein ("A Study of Tumors of the Bladder," page 36) says that "all tumors of the bladder present, more or less, sooner or later, the triple symptoms, hæmaturia, irritable bladder, and pain."

[1] Read before the Mitchell District Medical Society, Seymour, Ind., December, 1888.

## Progress of Medical Science.

ECZEMA IN CHILDHOOD.—In writing upon the pathology and therapy of infantile eczema Dr. Schieff says that the study of the causes of the disease, and what many are pleased to call predisposition to it, is better carried out in the infant than in the adult. The author bases his paper upon 1,017 skin cases treated in the Vienna Children's Hospital, out of which number 449 were instances of eczema. Eczema capillitii gave 230; eczema faciei, 57; eczema universale, 30, etc. The anatomical changes are given as an enlargement and hyperæmia of the vessels of the papillary body, a serous and cell exudation into this and the mucous layer. The papillæ are in consequence elongated and broadened, and so produce the nodule or papule. In greater new formation of cells in the papillæ, and more abundant effusion in the mucous layer and between it and the horny layer, by which the latter is raised up, a bulla is formed. If in such a lesion the quantity of exudation cells increases and becomes greater than the serous fluid, a pustule is formed. In more intense inflammation the corium becomes involved. When the acute eczema goes over into the chronic form we find the papule

often extremely enlarged, the vessels increased in calibre, the epidermis and corium thickened, at times pigmentation, indications of increase in connective-tissue growth, and disappearance of the panniculus adiposus. As regards etiology, it is especially noticeable that eczema appears most frequently in the first and second years of life, 136 cases in the author's table being put down for the first year and 143 for the second. There are four reasons why this is so: 1. The thinness of the epidermis. 2. The superficial disposition of the papillary body and its plexus of vessels. 3. The comparatively greater turgescence of the skin in the infant compared with the adult. 4. The habitual hypersecretion of the glands of the skin. The epidermis being thinner, there is more rapid desquamation of the horny layer, and the papillæ and their vascular net-work lie nearer the free surface and are only protected from external irritating influences by a thinner layer of horny tissue. The skin is thus much more readily affected by irritants, and by reason of the delicacy of its formation the latter much more quickly produce lesions of the tissue than is the case in the skin of adults. The glandular system of the skin being so active, and the product of the glands being so disproportionately rich, we have here one of the most fruitful sources of external injury in the irritation set up by the fatty-acid-fermentation products of the skin secretions. These and other disturbing influences do not probably in themselves dispose the child to eczema, but only influence its production in so far as they affect the nutrition, blood-supply, functions, and sensibility of the skin, or possibly in some cases exercise some especial irritant action. Although among external causes we must place in the first rank an accumulation and decomposition of the natural secretions of the skin, especially in children at the breast, still the number of sources of irritation is infinite. Among them must be mentioned too frequent bathing and rubbing; too long-continued baths; maceration of the skin from sweat; acid and alkaline excretions left in contact with the skin; contact with secretions from irritated and inflamed mucous membranes; various physical and chemical agencies; too warm bed-clothing; piercing the ears; scratching occasioned by the burning and itching such as vermin, scabies, and other conditions produce. When eczema has once broken out, these conditions prolong and aggravate it and cause it to spread. A mycotic origin of eczema has been suggested, but cannot as yet be regarded as proved. It is, however, highly probable, from the configuration, localization, and obstinacy to treatment, that parasitic eczema does exist.—*Journal of Cutaneous and Genito-urinary Diseases.*

Twenty-five Cases of Nephrectomy by Abdominal Section.—At a meeting of the Medico-Chirurgical Society Mr. Knowsley Thornton read a paper, and accompanied it with a complete table of twenty-five cases, showing age, sex, condition, disease, date of operation, situation of incision, method of treating ureter, whether drained or not, immediate result, and subsequent history to date. Eight of the cases had already been brought before the International Medical Congress in Copenhagen, and these were marked off from the seventeen unpublished cases in the table, and but briefly, if at all, referred to in the context. Of one of them, No. 6, which was reported a failure in 1884, with pain in the bladder and the other kidney, a very satisfactory subsequent history was now given, the patient being in perfect health, married, and mother of a son. There were twenty recoveries and five deaths in the series, a result twenty per cent. better than that generally given for all nephrectomies, including those by lumbar section. This result was compared with that in ovariotomy eleven years ago, the mortality being then much higher for this comparatively simple operation. Two of the fatal cases were pointed to as not properly to be counted against abdominal nephrectomy, one being a malignant tumor which had perforated the right pleura, and the other having died of hemiplegia, which was brought on by the anæsthesia rather than by the operation. The superiority of nephrectomy over nephrotomy and drainage for the cure of hydronephrosis was illustrated by six cases. Incision of suppurating kidney as a preliminary to nephrectomy was condemned. The author's practice of pinning out the ureter had led to no troubles, and was claimed as the chief factor in success. The removal of suppurating kidneys without any puncture during operation was strongly advocated whenever their size admitted it. The superiority of Langenbuch's incision was insisted upon. The question of drainage was fully discussed, and that of the differential diagnosis in sarcoma of the capsule and of the kidney touched upon. A question was raised as to the varieties of tubercular (so-called scrofulous) kidney; and the paper concluded with a promise of records of lumbar and abdominal nephrotomies and nephrolithotomies, in which the mortality was considerably lower than in nephrectomy. Either figures or actual specimens were shown of many of the cases. Mr. Clement Lucas claimed that the lumbar operation was more successful than the anterior method. He had operated on six cases without a death, and considered this success due to careful selection of the cases. He insisted on the importance of knowing the working power of the other kidney; the quantity of urea excreted daily should be estimated, and if it were less than half the normal amount, then the operation must be a very serious one. His cases included hydronephrosis, pyonephrosis, and calculous pyelitis; but he had not operated for malignant disease of the kidney. Twice he had explored the loin, but finding the lumbar glands involved he had abandoned the operation. Czerny taught that hydronephrosis was best dealt with by laying open the cyst and stitching the wall to the skin: this was absolutely wrong. The cyst should be removed, for in hydronephrosis it was generally possible to estimate the condition of the other kidney. He questioned whether suppurating kidneys could be removed through the peritoneum with perfect safety, owing to the danger of fouling the serous membrane. The ureter had never given him any trouble; he simply ligatured it and dropped it back. Mr. Thornton said that he did not hope to convert Mr. Lucas to the anterior operation, though he congratulated him on his successful cases. It must be remembered that when a large number of cases were dealt with then the mortality came in. In his first eleven cases all recovered, but in the next fourteen he lost five cases, giving a mortality in the twenty-five of twenty per cent. He agreed that it was important to estimate the condition of the other kidney, but thought that a little risk might be run, even if it were not quite sound, because the labor thrown upon it by a fellow-suppurating kidney would be greater than that thrown upon it by the operation. He had not met with any difficulty in preventing septic injection of the peritoneum. He defended his mode of dealing with the ureter.—*The London Medical Recorder.*

Hydrate of Chloral in Chapped Nipple.—Mitropolsky, of Moscow, recommends chloral as an excellent local means for fissured and excoriated nipples. The latter should be kept covered with compresses (soft linen) soaked in a solution of half a drachm of chloral in three ounces of water. The compresses should be changed every two and a half or three hours. When a prolonged application is necessary, it is advisable to use a weaker lotion (half-drachm to six ounces). The solution leaves a thin, whitish, firmly adherent film over the diseased surface, which does not disappear by suckling. Pain and tenderness are said to be strikingly relieved almost immediately; the lesions rapidly healing. The chloral compresses do not produce any bad effects on nurslings.—*St. Louis Medical and Surgical Journal.*

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Another Attack on American Industries.—The Austrian authorities recently made a raid on the drug-stores in Vienna and confiscated all the "safe-cure" preparations they could lay their hands on.

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## NATIVE AMERICANS AND IMMUNITY FROM PHTHISIS.

IN an interesting article on the subject of phthisis (*Medical Age*, June 25th), Dr. E. P. Hurd presents some facts which show, as he thinks, a slowly acquired immunity among native Americans against this disease. Dr. Hurd has compiled the statistics of mortality in the city of Newburyport for the past thirty years with the following result:

*Population of American Parentage.*

1858, one death from consumption in 378
1865 " " " " " 564
1870 " " " " " 252
1875 " " " " " 300
1880 " " " " " 351

*Population of Foreign Parentage.*

1858, one death from consumption in 273
1865 " " " " " 150
1870 " " " " " 161
1875 " " " " " 176
1880 " " " " " 136

The yearly average among persons of American parentage is one death from consumption in 336. The yearly average among persons of foreign parentage is one death from consumption in 179.

"The lesson taught by these tables," says Dr. Hurd, "is that consumption is far more prevalent among foreigners than among natives; as far as the latter are concerned, there is a gradual decrease in the death-rate from this disease."

Dr. Snow, of Providence, R. I., has also computed statistics which show the same thing. For example:

*Population of American Parentage.*

1875, one death from consumption in 415
1880 " " " " " 435

*Population of Foreign Parentage.*

1875, one death from consumption in 288
1880 " " " " " 268

Dr. Hurd's theory that the native American race is securing some immunity against phthisis, while the bacillus attacks especially the immigrants who are being sloughed upon our shores, has a certain amount of attractiveness—for the natives. He does not, however, take fully into account the fact that the foreign population are, as a rule, not so well housed or fed, and that they in general live under much worse hygienic conditions. If the mortality-rate from phthisis is increasing among them, it is largely because of the well-known fact that we are getting a much lower grade of immigrant than we used to receive.

## BIRTH RETURNS.

ACCORDING to the *New York Herald*, Massachusetts has a new statute, which has just gone into effect, for securing a more perfect record of vital statistics. All doctors are required to report births, and for each birth reported the doctor gets a fee of twenty-five cents. No penalty is fixed for failure to report. This little fee is no great object, yet it is proper as recognizing that the State has no right to exact a gratuitous service from medical men—which it does when it calls for a whole series of certificates that must be given under penalties for failure, as with doctors in this city. The language of the Massachusetts statute is odd. It requires the doctor to report all births "at which he is present." Suppose the baby is born before the doctor gets there?

The New York County Medical Association has a special committee for the purpose of considering this matter of certificate-grievance, with the view of securing as well more complete returns. A professional friend solemnly assures us that half his life is spent in writing certificates for life insurance, schools, judges, societies, and all kinds of health organizations. Great Britain and, we think, Germany wisely throw the responsibility of returning births upon the parents themselves. At all events, the legal opinion is that the State has no power to impose any service without providing a compensation.

## A GOOD WORD FOR THE GYPSIES.

IN the minds of most people a vagabond is a vagabond and a tramp is a tramp, without distinction or difference, except, possibly, that each individual seen is dirtier than the preceding, in proportion as the season is further advanced, and the dust has accumulated in ever-increasing thickness on his unwashed hide. This belief is well enough founded concerning the common tramp, that strange by-product of Anglo-Saxon civilization. But it is unjust to class with him that other race of vagabonds, the gypsy that comes no man knows whence, and that is not seemingly a degenerated stock but has ever been as it is now, a semi-heathen and a nomad race, living among and on, yet not of, the Christian and civilized communities of Europe and America. The gypsies are vagabonds, perhaps, but they are not tramps in the common acceptation of the term. They may be lacking in honesty, yet they are not without honor; they are proud of their lineage, and they are clean in their persons and in their homes.

This last statement may strike some of our readers as rather strange, yet it is corroborated by no less an authority than Mr. E. L. Wakeman, than whom no one in this country is better qualified to speak concerning the mode of life and customs of this peculiar people. In an interesting article in the *Annals of Hygiene* for May, 1889, Mr. Wakeman treats of gypsy hygiene, and shows that many of our own race might well imitate these despised people in their worship of cleanliness. He says that, during a close study of the race in many lands, for more than a quarter of a century, he has never known a physically unclean gypsy, the only exceptions being a few in-

dividuals in the towns of Southern Hungary and in Havana. The gypsy camps are always pitched near a spring or a stream, and the morning bath is as certain as the morning itself. But the cleansing is not of the skin alone, the undergarments are as constantly washed, and the straw bedding is likewise daily spread out for a sunning and airing.

But it is not in cleanliness alone that the gypsies compare favorably with those of the higher races among whom they live. Their virtue is absolute. Concerning this Mr. Wakeman says: "While gypsies are without law, as we know it, no people live who more rigorously follow, in fact and to the ultimate of spirit, the highest and purest code of physical and moral observance. They universally revere the marriage relation. I say universally, and use that word unqualifiedly. There is not an exception. . . Such a thing as disloyalty of wife to husband, or husband to wife, after marriage, has yet to be recorded of gypsy on the European or American continents." Furthermore, before marriage, there is not with them, either in theory or in practice, one law for men and another for women, but they regard chastity as essential a virtue in man as it is in woman.

Physical and moral cleanliness are cardinal virtues indeed, and, whatever his other shortcomings may be, the gypsy has in them good reason for his pride of race, and we cannot blame him, when he sees those virtues so little prized among his neighbors, for looking upon them as inferior beings, and unworthy of association with the Romany.

## MEDICAL MEN AND THE LAND-TAX THEORY.

THE columns of THE MEDICAL RECORD are hardly suitable for the discussion of economic problems, unless they relate very closely to the welfare of medical men. We cannot, however, refrain from referring to the fact that a number of communications have lately been received by us bearing upon the single-tax theory of Mr. Henry George. Our correspondents are all devout believers in single-tax and are, in particular, of the opinion that the adoption of Mr. George's views would vastly alleviate the condition of medical men.

It is interesting to find that the new propaganda has reached and affected so extensively medical men. In a liberal profession it is proper that every valuable idea should be received and discussed with candor. Perhaps physicians will view the single-tax idea with especial favor because, as one of our correspondents, Dr. David DeBeck, writes us, it was a physician, Quesnay, Court Physician to Louis XVI., who first proposed this "*impôt unique.*"

So far as we can learn, economists generally are agreed that land is the best thing to put taxes on, though it is a little hard to see how we can raise our $700,000,000 of local taxes on our $10,000,000,000 worth of land; or abolish poverty by shifting a tax which forms but seven per cent. of our total production.

We must take exception, also, to the view of one of our correspondents, who thinks that by lessening rents the tenement-house problem could be solved. This is sheer nonsense, as everyone who has observed the gregarious habits of the working people know. They would rather live together in small and dirty houses than go to the suburbs and live in some degree of isolation.

We cannot, however, undertake to introduce economic controversies into these pages. We are inclined to think that medical men, as a whole, will prefer to follow the inductive work of Mr. Edward Atkinson to the brilliant reasonings of doctrinaires.

## THE INFLUENCE OF HYPNOTICS ON THE PROCESS OF DIGESTION.

PROFESSOR CRAMER has made a study of the process of digestion as influenced by some of the hypnotics now commonly employed. Chloral, paraldehyde, hydrate of amylene, and sulphonal were tested relative to their influence on the saliva, the gastric juice, and pancreatic secretion. Cramer employed the method of artificial digestion. The results of his researches are published in the *Therapeutische Monatshefte.* His conclusions are, briefly, as follows:

1. The diastatic action of mixed saliva is not interfered with by the drugs referred to. 2. The capacity to digest fibrin is not reduced by weak solutions of chloral, paraldehyde, amylene hydrate, and sulphonal. But in a more concentrated form (1 to 20) the three first-named substances retard this action unmistakably. On account of the insufficient solubility of sulphonal, reliable results were not obtained with it. 3. The functions of the pancreatic juice were markedly influenced by chloral and paraldehyde, less so by hydrate of amylene, and not at all by sulphonal.

It follows, from these observations, what, indeed, many physicians have already learned from their own experience, that none of the hypnotics are to be indiscriminately dispensed and, more particularly, that caution is necessary where digestion is already impaired.

# News of the Week.

ACTINOMYCOSIS IN NEW YORK CITY.—The death of a man in this city from actinomycosis of the liver was recently reported.

THE MEETING OF THE AMERICAN RHINOLOGICAL ASSOCIATION, which was announced for August 28th, has been postponed until October 9, 10, and 11, 1889, at which time it will be held at the Palmer House, Chicago.

DR. CLARA BLISS HINDS, daughter of the late Dr. D. A. Bliss, General Garfield's physician, is practising in Washington, and is an active member of the Woman's Anthropological Society of that city.

DR. WEBER-LIEL, formerly of Jena, where he was at one time Professor of Otology, and had to resign on account of ill health, has now recovered and has resumed the practice of his specialty at Bonn.

THE LEHIGH VALLEY MEDICAL ASSOCIATION will hold its Ninth Annual Meeting at Glen Summit, Pa., on Friday, August 26th.

INSANITY IN RUSSIA.—An official report recently made to the Russian Government states that insanity is increasing very rapidly in that country. The majority of those affected belong to the middle and upper classes, and the years immediately succeeding puberty are those in which the disease declares itself in the greater number of cases.

THE RESIGNATION OF DR. DAY.—The following communication was sent to Dr. Day after the acceptance of his resignation as Sanitary Superintendent:

NEW YORK, July 30, 1889.

DR. WALTER DE F. DAY:

*Dear Sir*—The Board of Health directs me to inform you that it has this day, with great reluctance, accepted your resignation of the office of Sanitary Superintendent, which you have long filled to the entire satisfaction of the public and of this Department, and with great honor to yourself.

The Board desires me to officially express to you its high appreciation of your valuable services as the Chief Executive Officer of this Department, of your ability and integrity, and of your uniform kindness and courtesy in all your official relations. The Board regrets that your health obliges you to dissolve your connection with this Department, and thereby deprives it of the services of an officer who has its entire confidence.

Very respectfully, and by order of the Board,

(Signed) EMMONS CLARK, *Secretary.*

DR. W. A. EWING has been appointed Sanitary Superintendent of the Board of Health in place of Dr. Day. Dr. Ewing is well and favorably known to many physicians of this city as a talented and hard-working practitioner, and there is every reason to believe that his administration of this department will not suffer in comparison with that of his predecessor, difficult as the task may be for one who has to follow Dr. Day.

THE NOVA SCOTIA MEDICAL SOCIETY held its annual meeting in Halifax on July 3d and 4th. The attendance was fairly large. The President, Dr. Campbell, delivered an address upon "Medical Legislation in Nova Scotia." The following papers were read the first day: "The Progress of Medicine," by Dr. J. C. De Witt; "Pneumonia," by Dr. Buckley; "An Epidemic of Typhoid Fever at Truro," by Dr. W. S. Muir; "The Latest Methods of Treating Wounds," by Dr. Reid; "Surgical Dressings," by Dr. John Stewart; "Keloid," by Dr. Parker; "The Importance of Early Operations in Cancer," by Dr. Farrell; and "Report of a Case of Cancer of the Breast," by Dr. Muir. On the second day of the meeting Dr. Page presented a communication on "The Frequency of Forceps Application;" Dr. Fox, one on "Puerperal Eclampsia;" Dr. N. E. McKay, on "Hare Lip;" Dr. Stoddard, on "The Disposal of Sewerage;" Dr. Morrow, on "The Use and Function of Medical Journals," and Dr. W. B. Moore, on "The Therapeutic Value of Glycerine." Dr. W. B. Moore, of Kentville, was elected President, and Dr. W. S. Muir, of Truro, Secretary, for the ensuing year.

THE MEDICAL SOCIETY OF WEST VIRGINIA.—The annual meeting of this Society was held at White Sulphur Springs, on July 17, 18, and 19, 1889. The address of welcome was delivered by Dr. T. R. Evans, of Charleston, and then the President, Dr. L. D. Wilson, of Wheeling, read the annual address. He referred in the opening to the creation, during a special session of the Legislature, of a State Board of Health, and then passed on to a consideration of the advances in medical science during recent years. Dr. D. Mayer read a paper on the value of Crockett Spring, Montgomery County, Va. The water in this spring is 70° in the coldest weather. The essayist recommended the water for rheumatism, gout, and diseases of that nature. Dr. L. B. Edwards, of Richmond, spoke upon the advantages of State Medical Examining Boards. Dr. Hoopman, of Baltimore, then read a paper on the "Pathology of Fever." Dr. Upshur, of Richmond, read a paper on "Reflex Bladder Troubles," which was discussed by Drs. Hunter, McGuire, Richardson, and others. A communication, entitled "Two Laparotomies, with Comments," was presented by Dr. J. E. Michael, and one on the "Care of our Females from Birth to Maturity," by Dr. J. D. Myers, of Huntington. The speaker had a rather poor opinion of the physical powers of women of the present day, saying that one hundred years ago one woman could do the work of six in our day. Children, he said, should be made to sleep in the dark. A child who has always slept in the dark will not be always looking under the bed for the burglar, nor will she jump on a chair if she see a mouse or rat. He condemned high-heeled shoes, and said that no girl should marry before she is twenty years old. The following officers for the ensuing year were elected: *President*, Dr. S. H. Austin, of Lewisburg; *1st Vice-President*, Dr. T. R. Evans; *2d Vice-President*, Dr. J. D. Mayer, of Charleston; *3d Vice-President*, Dr. Moss, of Cabell County. Dr. Fullerton, of Charleston, the present incumbent, was re-elected *Secretary*. Dr. Campbell, of Wheeling, was re-elected *Treasurer*. *Board of Censors*—Drs. McDonald, Enslow, Putney, Fraval, Rupert, Hughait, and Wagner. The next meeting of the Society will be held in Wheeling. The number of members is now nearly two hundred.

JOHN HOWARD PRIZE.—The Russian Government offers a prize of $400 and a gold medal for the best essay on "John Howard in the History of Prison Reform," in memory of the British philanthropist, who died at Kherson, in South Russia, in 1790, after doing much toward the improvement of the prisons in Russia. The prize is open to general competition, but the essays must be written either in Russian or in French. They are to be sent to St. Petersburg, when they will be judged by a select committee during the convocation of the fourth International Prison Congress, which takes place next year during the centenary of John Howard. There is ample room for prison reform in that free and enlightened country.

AN ALL-EMBRACING SPECIALIST.—A physician in an Iowa town, who is given to advertising, has on one of his display cards, printed on the same sheet with the butchers, soap-makers, and confectioners, the following: "Practice limited (except among former patrons) to Surgery, Diseases of Women, Diseases of Respiratory, Alimentary, and Genito-urinary Organs. The Eye, Ear, and Skin. A general Office and Consultation Practice."

"LE JOURNAL DES MALADIES CUTANÉES ET SYPHILITIQUES" is the title of a new dermatological journal which has appeared in Paris. The editor-in-chief is Dr. Henri Fournier. The journal is to appear twice in each month.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION will hold its next meeting at Evansville, Ind., September 10th, 11th, and 12th.

Dr. Edward J. Turner died of nephritis at his home in Wilton, Conn., on July 26th. Dr. Turner was born in Bath, Me., in 1822. He was known as the founder of the inebriate asylum, and his whole professional life was passed in controversies upon the subject of inebriety as a disease. After twenty years of labor, against great opposition, he finally succeeded in founding the Inebriate Asylum at Binghamton, the first ever built. Since that time over seventy asylums have been established in different parts of the world. The Binghamton asylum was afterward changed to an insane asylum, and at the time of his death Dr. Turner was endeavoring to have it changed again to its original purpose, and was also engaged in trying to establish an asylum for female inebriates. While not the originator of the idea of inebriety as a disease, he was one of the earliest upholders of this view, and was the first to urge the treatment of inebriety in asylums.

Dr. A. E. Jones, of Cincinnati, was murdered on July 25th by his colored coachman, the object being apparently robbery. Dr. Jones was a well-known physician, and a prominent citizen of Cincinnati, having been for several years a member of the Common Council. During the war he was appointed provost-marshal, and was always greatly interested in military affairs, being at the time of his death Surgeon-General of the Ohio National Guard.

The Eyes of School-children.—Dr. T. F. Bliss, of Springfield, O., recently made an examination, at the request of the School Board, of the eyes of the children attending the public schools of that city. The number of pupils examined was 3,707, of which 378 had some defect of vision, or some disease of the eye, or both, divided as follows: Granular ophthalmia, 13; chronic conjunctivitis, 14; inflammation of lids, 8; strabismus, or cross-eye, 37; low vision not improved by test-glasses and less than one-fourth normal, 24. In the remainder there was defective vision which was improved by test-glasses.

A Library Three Thousand Five Hundred Years Old.—At the annual meeting of the Philological Society of Great Britain, held on July 1st, a paper by Professor Sayce was read on the recent discoveries in the palace of Amenophis III. From the tablets and inscriptions there found we learn that in the fifteenth century before our era—a century before the Exodus—active literary intercourse was going on throughout the civilized world of Western Asia, between Babylon and Egypt and the smaller states of Palestine, of Syria, of Mesopotamia, and even of Eastern Kappadokia. And this intercourse was carried on by means of the Babylonian language, and the complicated Babylonian script. This implies that all over the civilized East there were libraries and schools where the Babylonian language and literature were taught and learned. Babylonian appeared to have been as much the language of diplomacy and cultivated society as French has become in modern times, with the difference that, whereas it does not take long to learn to read French, the cuneiform syllabary required years of hard labor and attention before it could be acquired. We can now understand the meaning of the name of the Canaanitish city which stood near Hebron, and which seems to have been one of the most important of the towns of Southern Palestine. Kirjath-Sepher, or "Book-town," must have been the seat of a famous library, consisting mainly, if not altogether, as the Tel el-Amarna tablets inform us, of clay tablets inscribed with cuneiform characters. As the city also bore the name of Debir, or "Sanctuary," we may conclude that the tablets were stored in its chief temple, like the libraries of Assyria and Babylonia. It may be that they are still lying under the soil, awaiting the day when the spade of the excavator shall restore them to the light. The literary influence of Babylonia in the age before the Israelitish conquest of Palestine explains the occurrence of the names of Babylonian deities among the inhabitants of the West. Moses died on the summit of Mount Nebo, which received its name from the Babylonian god of literature, to whom the great temple of Borsippa was dedicated; and Sinai itself, the mountain "of Sin," testifies to a worship of the Babylonian Moon-god, Sin, amid the solitudes of the desert. Moloch or Malik, was a Babylonian divinity like Rimmon, the Air-god, after whom more than one locality in Palestine was named, and Anat, the wife of Anu, the Sky-god, gave her name to the Palestinian Anah, as well as to Anathoth, the city of "the Anat-goddesses." In a careful reading of the tablets Canon Sayce came upon many ancient names and incidents known up to the present only from their appearance in the Bible. All these he carefully described, as well as several references in the tablets to the Hittites.

Meeting of the American Medical Association.—Dr. Vaughan, of Michigan, writes that he was reported as saying that Koch did not believe the Eberth germ to be the cause of typhoid fever, whereas he said that Koch did not believe the Eberth germ to be demonstrated to be the cause of typhoid fever. The thyrotomy reported by Dr. Ephraim Cutter was performed in 1866 instead of 1886. It was Dr. Jenkins, and not Dr. Jaggard, who discussed the paper on dioscorea villosa, or wild yam.

Bees and Rheumatism.—A remedy for rheumatism, that is said to be popular in France, consists in exposing the patient to the stings of bees. The insects are applied to the neighborhood of the affected part and the stings are repeated until a cure results. In a memoir presented to the Academy of Medicine of Paris, a report is given of over one hundred cases of acute and chronic rheumatism so treated with success. It required, however, an average of nearly three hundred and fifty stings for each case. Some patients might prefer the disease to the remedy.

The Austrian Pharmacopœia.—The seventh edition of the Austrian Pharmacopœia will soon be published. It will not contain many alterations. The proportion of hydrocyanic acid in cherry-laurel water will be raised from 0.6 to 1 per mil., and that of arsenic in Fowler's solution will be reduced to 1 per cent. Zittmann's decoction will henceforth be called compound decoction of sarsaparilla, and Dover's powder will be known as pulvis ipecacuanhæ opiatus.

The Length of the Medical Students' College Course.—The German Medical Congress has resolved that the obligatory period of medical study, including the term of military service, should be fixed at not less than five years.

## Society Reports.

### THE EIGHTH GERMAN CONGRESS OF INTERNAL MEDICINE.

*Held at Wiesbaden, April 15, 16, 17, and 18, 1889.*

UPON the opening of the first session of the Congress

THE PRESIDENT'S ADDRESS

was delivered by HERR VON LIEBERMEISTER, of Tübingen. The subject of the address was "The Scope of Internal Medicine." This was, he said, not a branch of medical science, but medical science itself, the trunk from which surgery, gynecology, ophthalmology, laryngology, and all the other branches sprang. The problems which the specialists were called upon to solve were easy compared to those which confronted the general practitioner, and internal medicine could advance only by dint of hard and unremitting labor. But in addition to these purely medical subjects, general medicine had also its public duties to perform. It stood in the relation of a guardian to the public in all things that had to do with health. It must warn the people against the dangers which threaten them in the neglect of hygienic rules, and it must also guard them against the attacks of quackery. After a few well-chosen words of greeting to his fellow-members, the speaker declared the Congress open.

HERR SCHULTZE, of Bonn, delivered a eulogy upon Professor Hugo Rühle, who had died on July 11, 1888, aged sixty-four years. He was one of the earliest members of the Congress, and had always been active in its interests.

INTESTINAL OBSTRUCTION.

HERR LEICHTENSTERN, of Cologne, opened the discussion with a brief reference to the history of this affection, which was recognized by the earliest medical writers. The most important contributions to our knowledge of the nature and treatment of the condition, however, date from comparatively recent times. The first employment of the term "ileus" was to designate disease of the ileum; later it came to be applied to intestinal obstruction accompanied by stercoraceous vomiting; but now it is used to denote intestinal occlusion simply, which may or may not present vomiting of fecal matter as one of its symptoms. Intestinal obstruction may be due to mechanical causes, or it may arise from paralysis of the muscular coat; but in the majority of cases both conditions are present. The most frequent

CAUSE OF ILEUS

is peritonitis, and especially perityphlitis. It may also follow injuries of the abdomen, the reduction of a hernia, laparotomy, or even the removal of some mechanical obstruction. Here the obstruction is a paralytic one. Excessive meteorism may also occasion it by inducing a paralysis of the muscular coat. The paralytic form may also lead to mechanical obstruction by the formation of a sharp bend at either or both extremities of the paralyzed portion.

The sudden occurrence of symptoms of intestinal occlusion does not necessarily imply a sudden formation of the obstruction. There may be well-marked obstruction which remains concealed because of the hypertrophy of the portion of intestine above it. After a time, as a result of inflammatory changes in the mucous membrane, or from some other cause, the muscular coat becomes paretic; it is then unable to drive the contents of the intestine beyond the constriction, and the condition at last declares itself by unmistakable signs.

In the

DIAGNOSIS OF ILEUS

we have first to ascertain the cause of the obstruction, whether it lie in the intestine itself, in the peritoneum, or in other of the abdominal organs; secondly, the nature of the obstruction, whether it be from gall-stones, from fecal impaction, from peritoneal bands, from paralysis of the muscular coat, etc.; and finally, the seat of the obstruction. The signs pointing to occlusion of the small intestine are the sudden onset of the symptoms, copious vomiting, contraction of the upper portion of the abdomen, and the presence of indican in the urine. When the large intestine is the seat of the obstruction, the symptoms are more gradual in their onset and are less intense, the abdomen is unevenly distended, and the portions of the large intestine can be felt as distended masses, often displaced as a result of this distention. The lower down the seat of occlusion, the longer will have been the interval between the appearance of the constipation and the onset of the more acute symptoms.

THE SYMPTOMS OF ILEUS

are those directly due to the intestinal obstruction, such as constipation, pain, and stercoraceous vomiting. True fecal matter is seldom vomited, and what is called fæces is simply the contents of the small intestine having a fecal odor. Other symptoms are general, and are due to the absorption of the products of decomposition or to reflex causes. These are fever, delirium, collapse, etc.

HERR CURSCHMAN, of Leipsic, continued the discussion, taking for his subject the

TREATMENT OF INTESTINAL OBSTRUCTION.

The speaker said that every physician should have an outline of the treatment to be pursued always in his mind, as the suddenness of the symptoms demanded prompt action, with a clear idea of the end sought for and of the means best adapted to that end. He uttered some words of caution against a resort to laparotomy in all cases without distinction. In some cases, indeed, the danger of an operation was not less than that of the ileus itself. When a patient is not seen until collapse is imminent, if not actually present, and when the physician is able to form only the most vague idea of the nature and seat of the obstruction, the outlook of surgical treatment is in no degree better than that of medical. On the other hand, the rule to operate early is more easily formulated than carried out. It is no light matter, for either physician or patient, to consent to an operation at the very beginning of a trouble which, as statistics prove, yields to internal treatment alone in over one third of the cases. Nevertheless, when it is possible early in the progress of the affection to make a diagnosis of the seat and of the cause of the obstruction, it would certainly be wrong not to operate.

MEDICAL TREATMENT OF ILEUS.

The diet must be absolutely restricted, thirst being controlled by cracked ice or small enemata of water. Purgations should on no account be given, but opium is to be used freely to restrain the peristaltic movements. Washing out the stomach, as recommended by Kussmaul, is useful, as it not only relieves the distention of this viscus, but even tends to reduce the pressure in the intestine by emptying it in a measure of its contents. Puncture of the intestine with a hollow needle, in order to give exit to the gas, is a measure often of great benefit. The speaker was decidedly opposed to the use of fluid injections, which he looked upon as dangerous, but favored gaseous injections as recommended by von Ziemssen.

HERR JÜRGENSEN, of Tübingen, agreed with the last speaker as to the utility of puncture of the intestine for the withdrawal of gas, but he did not regard with favor the employment of gaseous enemata. They caused an increase of the intra-abdominal pressure, and he had even seen a fatal case of general emphysema and pneumo-tho rax caused by the escape of gas from the rectum into the retroperitoneal connective tissue.

HERR ROSENBACH, of Breslau, referred to a sign of considerable value furnished by the examination of the urine. If the urine is boiled and then nitric acid added, gradually a red color is developed, and on shaking the bub-

bles assume a violet tint. This reaction is not the same as that of indican. It denotes the decomposition of albuminous bodies in the tissues, and not the presence of products of intestinal decomposition. The persistence of this reaction for more than two weeks is of very grave prognostic import. The speaker regarded puncture of the intestine as a measure of great value.

HERR NOTHNAGEL, of Vienna, dwelt upon the question of intussusception, which he did not regard as a very frequent cause of intestinal obstruction.

HERR VON ZIEMSSEN, of Munich, had never seen any evil effects follow the injection of air, yet he thought it should be done with care. From his personal experience in an attack of ileus, he had come to regard the administration of drugs by the stomach as useless, and had found them effective only when given hypodermatically or by the rectum. He was in favor of perforation of the intestine with a hollow needle, and had often seen great relief from this measure.

HERR FÜRBRINGER, of Berlin, said that in the Friedrichshain Hospital thirteen per cent. of the cases of ileus recovered without operation. The results of medical treatment are not bad enough, and those of surgical treatment not good enough, to justify a resort to operative measures in all cases. He thought opium was the best drug in most cases. He was in favor of puncture of the intestine, yet at the autopsies of cases so treated he had occasionally seen evidences of peritonitis caused thereby. He had seen one case of rupture of the intestine following puncture.

HERR HOFFMANN, of Leipsic, had had some unpleasant experiences after puncture of the intestine. He was greatly in favor of laparotomy, an operation in itself without much danger, and one which was becoming every day more and more safe.

HERR SCHEDE, of Hamburg, thought that the future of surgical measures depended greatly upon the advances made in diagnosis of the seat and character of the obstruction. The danger of operation was due rather to the previous critical condition of the patient. If a certain diagnosis could be made in acute cases, he would resort at once to surgical measures, but otherwise he would try, first, medical means. At the first indication of heart failure, however, he would operate.

HERR FLOTHMANN, of Ems, reported four cases successfully treated by operation.

HERR BÄUMLER, of Freiburg, favored the use of opium in all cases, even though surgeons claimed that it often caused an apparent improvement, and thus operative treatment was postponed and much valuable time was lost. He believed in surgical measures only in cases of very acute strangulation. He had had success with internal treatment in even the most severe cases.

HERR LEUBE, of Würzburg, said the question divided itself into two, viz., when *may* the surgeon operate, and when *must* the surgeon operate. The surgeon *may* operate in cases in which all medical resources, such as opium, washing out the stomach, and purgatives (in the general condemnation of which he did not join) had been tried in rapid succession without success. The surgeon *must* operate upon the first indication of a failing pulse.

HERR IMMERMANN, of Basle, read a paper on

THE FUNCTIONS OF THE STOMACH IN PULMONARY PHTHISIS.

He had made a series of investigations on fifty-four phthisical patients to determine the digestive power of the stomach, and had found digestion to be normal in all cases, very little disturbance being present even in febrile cases. He concluded, therefore, that the anorexia, so common in pulmonary phthisis, was nervous and wholly independent of structural changes in the gastric mucous membrane. The logical deduction from this was that forced feeding in phthisis was a rational measure.

HERR PETERSEN, of Copenhagen, read a paper on

THE HIPPOCRATIC METHOD

of following nature and aiding her in the cure of disease. He thought this was too much neglected in these days, and believed that truly practical medicine must work along the lines of Hippocratism.

HERR FÜRBRINGER, of Berlin, read a paper on

IMPOTENCE IN THE MALE,

referring especially to the nervous form. The prognosis is not very favorable, the speaker having obtained a cure in only about one-third of his cases.

HERR DETTWEILER, of Falkenstein, exhibited

A POCKET SPITTOON FOR PHTHISICAL PATIENTS.

It consisted of a bottle with a funnel-shaped opening which was closed, when not in use, by a screw-cap.

HERR KLEMPERER, of Berlin, read a paper on

DILATATION OF THE STOMACH, AND ITS TREATMENT.

The cases which he had studied were not consequent upon stricture. In most of them there was hyperacidity of the gastric secretions. In some there was good muscular power in the walls of the stomach, in others the motor strength was diminished. In the treatment of this condition washing out the stomach held the first rank. This was best done in the evening, and with the use of but a small quantity of water. In regard to food, meat should be forbidden, the chief reliance being placed on the carbohydrates and fats, such as cream, sugar, bread, and butter. Other remedies which he had found to be of value were massage, electricity, creosote, and alcohol.

HERR HANAU, of Zürich, reported two cases of

SUCCESSFUL INOCULATION OF CANCER.

He used pieces of cancer taken from a white rat, which he inserted into the scrotal tissue of two other rats. Two months later one animal showed a general peritoneal carcinosis, and the other had carcinomatous nodules in the scrotum. Histologically the inoculated cancer was the same as that from which the inoculations were made.

HERR LAUENSTEIN, of Hamburg, read a paper on

STRICTURE OF THE PYLORUS.

His report was based upon the study of twenty cases—eleven of carcinoma, seven of cicatrices following ulcer, one of duodenal stricture (indistinguishable clinically from pyloric stricture), and one of compression of the pylorus from without by a large gall-stone. Tumors of the pylorus, when the stomach is of moderate size, are found in the epigastrium at the level of the eighth or ninth costal cartilage. When the stomach is empty the tumor lies a little more to the left, and moves over to the right when the stomach is full. When there is marked gastric dilatation the movements of the tumor are more extensive. Sometimes the tumor cannot be felt except when the stomach is empty. Tumors following ulceration lie somewhat deeper, as a rule, than cancer, and frequently form adhesions with the mesocolon or transverse colon.

TREATMENT OF PYLORIC STENOSIS.

There are three operations which may be undertaken for the relief of strictured pylorus, the choice of which can be made only after the abdomen has been opened. The first operation is the plastic one of Heineke and Mikulicz, which is of service in cases of non-malignant stenosis. The second consists in the establishment of a gastro-intestinal fistula, and is applicable to cases of cancer or of ulcerative stricture which cannot otherwise be relieved. This operation can be performed in less than an hour, and is less dangerous than resection of the pylorus. The third operation is resection, and is occasionally of service in cases of non-adherent cancer. The operation is a tedious one, and apt to be dangerous to the patient.

HERR ROSER, of Hanau, presented a patient upon whom he had performed

TOTAL EXTIRPATION OF THE LARYNX

on account of carcinoma. The hyoid bone was also removed.

HERR FINKELNBURG, of Bonn, read a paper on

THE RELATION OF THE SOIL TO THE SPREAD OF TUBERCULOSIS.

A stagnant condition of the subsoil water would seem possibly to favor the production of the disease.

HERR VON ZIEMSSEN presented a communication upon the

MOVEMENTS OF THE HUMAN HEART,

in which he detailed the results of a series of observations he had made upon the heart movements in a boy fourteen years of age, in whom the organ was exposed after a resection of the ribs.

HERR KREHL, of Leipsic, read a paper on the

VARIATIONS OF INTRA-CARDIAC AND ARTERIAL PRESSURE,

in which he described a series of experiments, on dogs, made by Frey and himself.

HERR EBSTEIN presented a paper on

THE NATURE OF GOUT.

He recognized two forms of the disease, according as the process was primary in the articulations or in the kidneys. Primary articular gout is essentially a chronic disease, interrupted by acute exacerbations which are known as the "attacks." The speaker did not believe that the deposits occurred in consequence of inflammation, but he regarded uric acid as a chemical poison which excited, not an inflammatory but a necrotic process. We may have very serious gouty lesions, caused by the presence of uric acid in the tissues, without having any deposits. In renal gout there is a stagnation of uric acid, together with anatomical or functional alterations in the kidney. But this is not the cause of the deposits in the tissues, in the articular form of the disease. In this form there is an excessive production of uric acid in the medulla of the bones and in the muscles, whence it passes into the lymphatics, and thus gets into the blood, and is finally excreted by the kidneys. But juices rich in uric acid pass with difficulty through the lymphatics, and this is the true reason for the deposits.

HERR PFEIFFER continued the discussion of the subject with a paper on

THE TREATMENT OF GOUT.

In regard to diet, he said that he did not favor the exclusion of meat, as such a course might serve to increase the gouty cachexia. The hydrocarbons give rise to the formation of uric acid, and should be absolutely forbidden; alcohol in any shape should not be permitted. Exercise in the open air should be taken as soon as possible, since rest only prolongs the attack. The medical treatment should consist in the administration of alkalies, preferably by means of mineral waters, both externally and internally, at the very beginning of an attack. During the height of the attack, when the pain is severe, salicylic acid and dilute hydrochloric acid are of the greatest service.

HERR KRAUSE, of Berlin, read a paper on

THE TREATMENT OF TUBERCULAR LARYNGITIS.

He advocated tracheotomy to secure rest to the organ, and then scraping of the diseased parts, followed by local application of iodoform or lactic acid.

HERR SCHEISSMANN, of Berlin, said that he had seen the best results with incisions, scarifications, scraping, and the local use of lactic acid and menthol.

HERR DEHIO read a paper on

THE VESICULAR MURMUR,

in which he maintained that this sound was produced by vibrations transmitted to the residual air in the alveoli from the column of inspired air.

HERR BASCH, of Vienna, read a paper on

CARDIAC DYSPNŒA.

This form of dyspnœa, he said, is marked by three symptoms, viz., shortness of breath, diminution of the useful effect of respiration as regards hæmatosis, and increased volume of the lungs. These last two conditions had been shown experimentally, by the speaker, to result from interference with the action of the left ventricle.

HERR FINKLER, of Bonn, related the history of an epidemic of pneumonia, observed by him, in which he found streptococcus pyogenes in every instance. He believed that the disease was due to the presence of this microbe.

HERR STORCH, of Copenhagen, exhibited

A NEW FORM OF ASPIRATOR,

which consisted of an air-tight bottle filled with water. The tube connected with the aspirator needle opened into the upper part of the bottle, while from the lower part the water was allowed to escape slowly. In this way a vacuum was caused and a considerable aspirating force was produced.

HERR MULLER, of Berne, read a paper on

THE TISSUE-CHANGES IN CARCINOMA.

He had found that in cancer there was a considerable diminution in the quantity of urea excreted, and that this was independent of any kidney trouble.

After some discussion on the papers read at this last session, the President declared the Congress of 1889 closed.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, March* 13, 1889.

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

REPORT OF THE COMMITTEE ON MICROSCOPY.

DRS. IRA VAN GIESON and JOHN S. ELY reported that the tumor of the breast referred to the committee on February 20th, by Dr. L. H. Sayre, had the morphological structure of fibro-carcinoma, or the scirrhous variety of carcinoma.

DR. JOHN S. ELY presented a specimen showing

PRIMARY CARCINOMA OF THE COMMON BILE-DUCT,

with the following remarks:

"Primary tumors of the biliary passages outside the liver, of whatever nature, are of great rarity. Two or three fibromata, a papillary myxoma, and sarcomatous infiltration of the wall of the gall-bladder have been described, but by far the commonest form of tumor of these parts is carcinoma.

"It is customary to consider separately carcinoma of the gall-bladder and of the ducts. This distinction appears to me to be properly made, since the clinical history in the two cases is essentially different, carcinoma of the biliary ducts being almost invariably accompanied by intense jaundice, while carcinoma of the gall-bladder alone never is.

"There is a considerable number of cases of so-called primary carcinoma of the gall-duct on record, but in most of these the presence of nodules of cancer in adjacent organs destroys the proof regarding the point of origin of the new growth. I have succeeded in collecting seven cases, however, in which there could be no question as to the origin of the tumor in the gall-ducts, no other growth of any kind occurring in any of these cases. These cases are reported by Durand-Fardel,[1] Rosenstein,[2] Schreiber,[3]

[1] Durand-Fardel: Recherches anatomico-pathologiques sur la Vésicule et les Canaux biliaires, Archives gén. de Méd., 1840, p. 167; also, 1841, p. 418.

[2] Rosenstein, S.: Icterus durch Cancroid des Ductus choledochus mit Albuminurie, Berl. klin. Wochenschr., i. (1864), No. 34, p. 336.

[3] Schreiber, J.: Ueber das Vorkommen von Primären Carcinomen in den Gallenwegen, Berl. klin. Wochenschr., xiv. (1877), No. 31, p. 446.

Korezynski,[1] Schüppel,[2] Key,[3] and Kraus.[4] Five of the patients were men; two, women. Four were more than sixty years of age; two (Key, thirty-five, and Kraus, forty-nine) were younger; of one (Rosenstein) the age is not given. In all cases except one (Durand-Fardel) symptoms distinctly referable to the tumor were present, and they are of great uniformity.[5] There was gradually developed jaundice, which toward the last became very intense and presented all the characteristics of jaundice due to obstruction. Pain was not a marked symptom, but is mentioned as having been present in slight degree in four of the cases. The duration of the symptoms appears to have been from eight weeks to about eighteen months. The tumor in all cases was very small. In three it was situated at the mouth of the common bile-duct; in four it was in the wall of the hepatic duct. A more or less careful microscopical examination, in most of the cases, confirmed the diagnosis of carcinoma. In all the cases there was narrowing of the lumen of the gall-duct at the site of the tumor, but there was complete occlusion of it in only one, that of Kraus, in which there was a large impacted gall-stone. The biliary passages above the tumor were markedly dilated in every case, and contained liquid variously described as brownish, dirty gray, clear and slightly greenish, etc. The liver is stated to have been enlarged in four cases, and not enlarged in one; it was soft, owing to great dilatation of the bile-ducts, in three cases; firm and hard in two; in all except one (Durand-Fardel) it was deeply stained with bile. The fact that five of the seven patients died of some intercurrent disease a comparatively short time after the onset of symptoms of obstructive jaundice renders it probable that in these cases we have to do with very early stages of what would later have become more widely diffused growths involving neighboring organs. It is consequently reasonable to suppose that many of the diffused growths in the neighborhood of the gall-ducts have their starting-point in the walls of the latter.

"Through the kindness of Dr. Hartley, in whose ward the patient died, I am able to present to you this evening a specimen of this very early stage of carcinoma of the common gall-duct. The patient was a German, fifty-three years of age, a tailor. He was admitted to Bellevue Hospital on February 11, 1889, and gave the following history. Four years previously, had an attack of jaundice of short duration, from which he recovered. Present illness began four months before, when he began to be again jaundiced, but this time instead of disappearing it steadily increased in intensity. He complained of headache, loss of flesh, pain and tenderness over the liver. No vomiting, appetite good, bowels costive. Was confined to bed four weeks prior to admission. Examination showed patient to be intensely jaundiced. Tongue coated. Nothing abnormal discovered, except decided enlargement of the liver and distention of the gall-bladder, the outlines of which could be distinctly appreciated by palpation. Urine was olive green, 1.012, acid; contained a trace of albumen and a few granular casts. There was slight fever on admission (100.5° F.) and this continued, the temperature ranging between 99° and 102° F. On February 16th he was transferred to the surgical division, and five days later Dr. Hartley performed the preliminary operation for cholecystotomy. Thirty-six hours later parenchymatous hemorrhage developed, which baffled all attempts to check it, and on February 26th the patient died of exhaustion.

"*Autopsy*, eighteen hours after death. Dressings soaked with blood and about an ounce and a half of blood in abdominal cavity. Slight amount of pus at lower end of wound. No peritonitis.

"Liver much enlarged, soft, olive-green color; surface shows occasional white spots and streaks, apparently dilated bile-ducts just under the capsule. Gall-bladder and ducts very much dilated; contain whitish liquid resembling thin pus. At the mouth of the common duct there is a small nodular tumor, completely surrounding the duct and narrowing its lumen so that it is impervious to the liquid contents of the duct. The tumor is thicker in the lower and left walls of the duct, where there is a nodule measuring 11 mm. by 9 mm. The duct just above this nodule is dilated to a small pouch.

"There is no ulceration of the mucous membrane lining the duct. The cut surface of the tumor presents the appearances of carcinoma. Surrounding organs apparently not involved. Cut surface of liver shows markedly dilated bile-ducts, the walls of which appear to be very much thickened, and from which thin whitish liquid exudes; centres of lobules somewhat dark, peripheries light. Softness of liver apparently due to the great dilatation of the bile ducts.

"Pancreas somewhat hard, but no apparent lesion. Kidneys show lesions of chronic diffuse nephritis. Mesenteric glands enlarged, but no lesion evident. Stomach, intestine, and rectum normal; spleen normal; brain and thoracic contents not examined.

"Microscopical examination shows the tumor to be cylindrical-celled carcinoma; the alveoli are very thick-walled. Sections of the liver show pigmentation of the cells and dilatation of the terminal bile-ducts, the walls of which, and of the larger ducts, are much thickened and infiltrated with small round-cells. The epithelium lining the bile-ducts is, in most places, gone or breaking down. Many of the bile-ducts are completely occluded by the products of inflammation. There is also a little interstitial hepatitis, besides dilatation of the central vein and fatty degeneration of the liver-cells. The pancreas shows the lesions of interstitial pancreatitis, besides, in places, evidence of recent inflammation; no sign of carcinoma discovered. Mesenteric glands show only ordinary hyperplasia. Kidneys show the characteristic changes of chronic diffuse nephritis.

"This case may, then, be epitomized as one of primary carcinoma of the common bile-duct, causing obstruction to the flow of bile, general dilatation of the biliary passages and gall-bladder, jaundice, and secondary inflammation of the bile-ducts. The other lesions found were insignificant.

"It is hoped that in the discussion of this case some light may be thrown upon the interesting question of the etiology of primary carcinoma of the liver. Importance is given to this subject, when it is appreciated that the liver is fourth upon the list, as regards frequency, of the organs affected with cancer. To be sure, the large majority of these are secondary to new growths in other parts of the body; still, a considerable number of them cannot be shown to be so, and we are compelled to suppose them primary in the liver.

"The laws of evolution render it impossible to believe that a highly differentiated cell can change into one of entirely different character, and we are, therefore, compelled to believe carcinomata to originate from epithelial structures. In the liver two such epithelial structures are present, the liver-cells and the epithelium lining the bile-ducts. We must look to one or both of these, then, for the source of primary carcinomata in the liver. Formerly the liver-cell was thought to be to blame in nearly all cases, but latterly the epithelium of the bile-ducts has come to be looked upon as the more common source of the neoplasm. This latter view is strengthened by our knowledge of the development of the liver, if we believe, with Cohnheim,[1] in the origin of tumors from embryonic

[1] Korezynski: Primär Carcinom im Ductus hepaticus. Review in Virchow-Hirsch Jahresbericht, 1878, ii., p. 208.

[2] Schüppel, O.: V. Ziemssen's Handbuch, viii., 1 (1880), pp. 66–76.

[3] Key: Fall af primär Kanceri gallgångarna. Review in Virchow-Hirsch Jahresbericht, 1881, ii., p. 190.

[4] Kraus, J.: Ein Fall von primären Krebs des Ductus choledochus in Folge eines im letzteren eingekeilten Gallensteines, Prager med. Wochenschr., ix. (1884), No. 49, p. 483.

[5] Durand-Fardel's patient was an old woman, eighty-one years of age, who apparently died of senility, the tumor having given no symptoms whatever.

[1] Cohnheim: Vorlesungen ueber allgemeine Pathologie. 2 Aufl. Leipzig, 1882, i., p. 723.

cells arrested in development, for all the epithelial structures of the liver have a common source—the epithelium of the embryonic bile-ducts. If we suppose some of these cells to be hindered in their evolution and to remain for a time inactive, later to take on an abnormal activity, we have at least a plausible explanation of the origin of primary carcinoma of the liver from the bile-ducts. The careful study of cases of primary cancer of the liver by Naunyn,[1] Waldeyer[2] and Weigert,[3] has lent much weight to this theory, almost amounting to proof. The case presented this evening, as well as the seven collected from the literature, seem to me to add evidence in favor of this idea, since they prove indisputably that carcinoma may originate from the gall-ducts outside the liver; and if this is possible outside the liver, why not equally well within it?"

Dr. Ira Van Gieson presented specimens illustrating

PRIMARY CARCINOMA OF THE COMMON GALL-DUCT, ENCROACHING ON THE PYLORUS AND LIVER.

"The specimen was taken from a woman, fifty years of age, who for twenty years had had fits of vomiting with intense epigastric pain. She was in the hospital but three weeks, and died deeply jaundiced, with symptoms of peritonitis.

"At the autopsy the wall of the common bile-duct was found to be uniformly thickened by a zone of rather dense white tissue, which also involved slightly the surrounding connective tissue, and a contiguous portion of the musculosa of the duodenum and pylorus. The latter contained in its musculosa a dense white nodule, 2 ctm. in diameter, which was not directly connected with the thickened duct. The thickened duct at its bifurcation into the hepatic ducts measured about two centimetres. Each of the hepatic ducts was about one and one-fourth centimetre in diameter. The thickening disappeared as the common duct entered the duodenum. Just before entering the liver each hepatic duct was adherent to the organ by a dense whitish zone growing into the liver. The enlarged and somewhat thickened gall-bladder contained about thirty variously sized, smooth, white-facetted gall-stones, and was adherent to the liver. Just above the gall-bladder the right lobe contained a hard, white nodule, 3 ctm. in diameter, not connected with the tubular mass surrounding the common duct and its branches. The liver also contained a number of rather small, scattered pus-cavities, the result of a suppurative inflammation about the gall-ducts. The intestines were loosely matted together and the abdominal cavity contained serum and flocculi of fibrin. There was nothing noteworthy about the other organs except that the kidneys were bile-stained.

"*Microscopical Examination.*—A large portion of the mass surrounding the gall-duct and its branches was composed of richly cellular connective tissue, in which were rather large acini lined with cylindrical epithelium. The nodules in the pylorus and in the liver were similar in structure. The pancreas and its duct were normal.

"Anatomical diagnosis was glandular carcinoma, primary in the gall-duct, and spreading thence to the liver and pylorus."

Dr. G. C. Freeborn presented a specimen illustrating

CARCINOMA OF BILE-DUCT AND PANCREAS, WITH CYST OF THE HEAD OF THE PANCREAS.

"The patient, a female, aged fifty-five, was admitted into the New York Cancer Hospital in September, 1888. Her history, taken from the records of the hospital, is as follows: She has always taken alcohol in moderate quantities and for the past three years has had considerable pain in the gastric region and attacks of vomiting, especially after eating. The heart-sounds were rapid, but no murmur was detected over the apex; a soft blowing murmur was detected over the pulmonary artery. At the junction of the epigastric with the right hypogastric regions, and at the lower part of the epigastric and umbilical regions, there is a mass approximating the size of an adult fist. This mass extends more below the umbilicus than above, and elevates the region about half an inch above the surface. It is hard to the touch and is immovable. Deep pressure causes no pain. The pulse is 106° F. The tongue is reddened. The patient is very anæmic. The stomach was washed out some fifteen times and no traces of hydrochloric acid were found.

"On November 18th a diarrhœa set in which was hard to control. From this time the patient grew weaker, and died in the first week of January. The clinical diagnosis of carcinoma of the stomach was made.

"*Autopsy.*—The right lung was normal; the left was œdematous and adherent at its apex. The heart showed some fatty degeneration of the muscle. The capsule of the left kidney was adherent and the cortical substance thickened; the right kidney was small but presented no marked lesions. The liver and spleen were normal.

"There were a few scattered ulcers in the rectum and descending colon. The head of the pancreas was embedded in a dense mass of tissue. The pyloric end of the stomach, as well as the descending and transverse portions of the duodenum, were adherent to this mass. Upon cutting into the mass a cyst which occupied the head of the pancreas was opened into, and found empty. In the anterior wall of the cyst two openings were found, one of which communicated with the ascending portion of the duodenum, the other with the transverse portion. The superior and anterior surface of the cyst was also adherent to the abdominal wall. The cavity of the cyst was irregular in shape and seemed to be limited to the head of the pancreas. No trace of the common duct could be found. The stomach was normal.

"*Microscopical Examination.*—The tail of the pancreas was normal. The walls of the cyst, except the anterior, were found to be made up of carcinoma with a small amount of pancreas tissue. The anterior wall was found to be made up of intestinal tissue infiltrated with a new growth of carcinoma."

Dr. T. M. Prudden said that it was well worth while bringing these three specimens together, for, while cancer of the liver with extensive involvement of the organ was commonly enough met with at autopsies, it was very rare to see a collection of cases, such as this, in which the lesions were in such an early stage. He was glad that Dr. Ely had stated his views concerning the origin of cancer of the liver, and his theory, if accepted, would simplify the question very much. It has been said that the presence of cylindrical cells in carcinoma of the liver shows that the tumor is from the gall-ducts, and if cylindrical cells are not found that it is a tumor of the liver proper. This is not correct, however, as the epithelium of the gall-duct is not composed entirely of cylindrical cells. The specimen presented by Dr. Freeborn would ordinarily be regarded as one of primary cancer of the pancreas, but taken in connection with the other specimens shown it could rightly be considered as occurring by extension from the bile-duct.

Dr. Van Gieson thought that the specimen presented by Dr. Freeborn was one of considerable importance, because it resembled other cystic forms of pancreatic disease, such as result from hemorrhagic pancreatitis. When death has taken place in an early stage of hemorrhagic pancreatitis we often find the lesion surrounded by zones of pancreatic tissue. But when the disease has existed for a longer period, it is found that the ascending peritonitis has resulted in the production of a wall incapsulating the pancreas. The tumor then becomes amenable to surgical treatment, and successful cases of removal have been reported by Gussenbauer and Thiersch.

[1] Naunyn, B.: Ueber die Entwickelung der Leberkrebse, Reichert u. DuBois-Raymond's Archiv, 1866, p. 717.
[2] Waldeyer: Die Entwickelung der Carcinome, Virchow's Archiv, lv. (1872), p. 67.
[3] Weigert, C.: Ueber primäres Lebercarcinom, Virchow's Archiv, lxvii. (1876), p. 500.

The intestines, matted together by the peritonitis and forming a wall around the pancreas, are very likely to be perforated, and sometimes the pancreas escapes in this way from the newly formed capsule. Rokitansky has reported such a case, and Chiari relates an instance in which no less than fifteen apertures were found in the wall surrounding the cyst.

Dr. Grauer reported a case that he had seen in Weigert's laboratory, Frankfort, of primary cancer of the gall-bladder, with secondary growths along the ducts and extending into the liver. He noticed that the gall-bladder was full of gall-stones, and Weigert told him that in his experience these concretions were always present in cases of primary cancer of the gall-bladder.

Dr. Freeborn called attention to

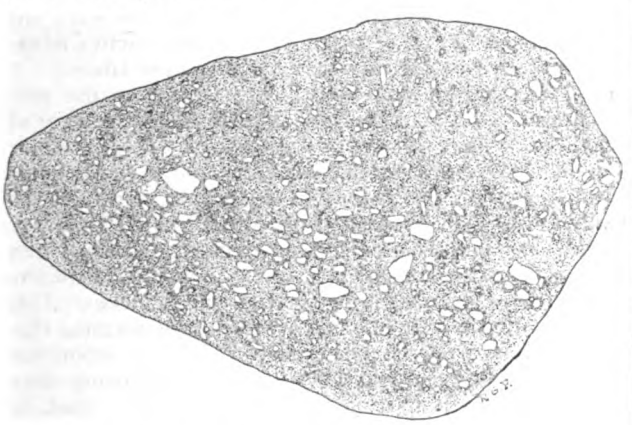
A NEW LAMP FOR ILLUMINATING THE FIELD OF THE MICROSCOPE,

devised by Dr. Koch. It consisted of an oil lamp with an ordinary argand burner. Fitting over the chimney was a sheet-iron shade in which were two apertures for the insertion of solid glass rods. One of these rods was curved so as to terminate beneath the stage of a microscope. The light from the burner was conveyed along this rod, and, after passing through a disk of blue glass to cut off the yellow rays, furnished a brilliant illumination for the examination of objects by transmitted light. The other rod was shaped so as to throw a light above the object when it was desired to examine it by direct illumination.

Dr. R. G. Freeman presented a specimen showing

MULTIPLE CAVITIES IN THE LIVER FROM POST-MORTEM DECOMPOSITION.

"This specimen is from a Polish woman, aged thirty, who died at Bellevue Hospital, when eight months pregnant, from rupture of the uterus. The autopsy was made by Dr. Prudden, through whose courtesy I am able to present the specimen.



"*Autopsy*, November 11, 1888, thirty-nine hours after death. Body fairly nourished; decomposition advanced. Liver full of small cavities, one to three millimetres in diameter; these cavities showed no special distribution along vessels, nor were they more numerous in one part of the organ than another; they were for the most part elongated, closed cavities.

"No cavities of this sort were found in the other organs. The liver was preserved throughout in alcohol. Microscopic examination showed the cavities to be surrounded by no membrane, nor was there any cell-infiltration in the surrounding liver-tissue. The edges of these cavities were in some cases ragged, in others smooth; some of the cavities contained a granular substance; in the vicinity of the cavities, as a rule, the nuclei did not stain. The bacteriological investigation was begun with the Grour stain, but staining with the aqueous solution of fuchsine gave much better results. Groups of large, stout bacilli were found here and there, while between the lobules throughout the liver occasional bacilli could be seen. In places the hepatic artery was filled by a great mass of these bacilli; many were also seen in the portal veins.

"Dr. Prudden tried to get cultures in gelatine from the liver, but no growth of micro-organisms took place.

"I have found no case similar to this reported. Through the kindness of Dr. Delafield, however, I am able to refer to two very similar cases observed by him, the material of which I have worked over and compared with that of Dr. Prudden's case. The first of these died of typhoid fever with perforation and peritonitis.

"*Autopsy*.—Body not well preserved. Liver showed multiple cavities, which varied in size from microscopic proportion to 3 mm. The liver was hardened in Müller's fluid.

"The second case died after several attacks of unconsciousness, with cyanosis.

"*Autopsy* in eight hours. Kidneys: Suppurative nephritis; no bacilli found. Liver: Studded with small whitish nodules, of the size of a pin's head, in some of which are cavities. The liver was hardened in Müller's fluid. The microscopic examination of these two cases showed practically the same condition as in Dr. Prudden's case. The white nodules mentioned in the second case were areas of intense bacterial invasion, and in which the nuclei did not stain. The same large stout bacilli were present in great numbers.

"These cavities, then, since there is no evidence of inflammatory change in the liver, are probably a post-mortem change due to the introduction through the circulation of putrefactive bacilli and the generation of gas by them; it is interesting, however, to note that in one case the autopsy was performed eight hours after death, during the winter months. The possibility of bacterial invasion during the preservation in Müller's fluid was obviated in the last case, where the liver was put directly in alcohol. This case has been thought worthy of presentation to the Society because the condition of the organ simulates a lesion."

Dr. Prudden said that cultures from this case were attempted on gelatine only. Nothing grew, but possibly better success might have attended trials in other media.

Dr. William P. Northrup presented some specimens showing

MILIARY GUMMATA OF THE LUNGS, LIVER, SPLEEN, KIDNEYS, AND LYMPHATICS IN A CHILD NINE MONTHS OF AGE.

A male child, aged nine months, was returned to the New York Foundling Asylum from the Out-door Department, suffering from moderate conjunctivitis, and, in addition, "seemed sick;" it had a temperature of 102½° F., and slight increase in rapidity of respiration. It died thirty-six hours after entrance. There was no eruption, and no diagnosis was made.

*Autopsy*, fourteen hours after death. Brain: Normal. Pharynx and larynx: Catarrhal inflammation, with moderate swelling of the mucous membrane, and superficial ulcers at the base of the tongue and between the arytenoid cartilages. Lungs: Bronchial and tracheal glands enlarged and cheesy. There were no adhesions. On the surface of the lungs were three to five miliary bodies like tubercles. On section four to six pea-sized cavities, with thick walls and with branching processes, were found. No hepatization. Heart: Normal. Liver: Thickly studded with round, opaque yellow bodies two to five millimetres in diameter. These on section showed a granular centre surrounded by a pellucid zone. There were a few bile-stained points in the centre, obviously the openings of gall-ducts. The whole organ was the seat of extensive fatty infiltration. The cœliac lymph-nodules were markedly enlarged and mostly cheesy. Spleen: Firm, dark, moderately enlarged; ten to twelve miliary, opaque white bodies were found on the surface and on section. Stomach: Normal. Intestines: Contents, bile-stained mucus.

Microscopic examination showed the nodules to be

characteristic gummata of the lungs, liver, spleen, and kidneys, and of the lymphatics at the root of the lungs and at the cœliac axis.

CANCER OF THE UTERUS, WITH INVOLVEMENT OF THE OVARIES.

Dr. H. J. Boldt presented two cancerous uteri, obtained by vaginal hysterectomy. In the first case the patient had suffered from hemorrhages only a short time; in the second case, however, the disease had existed, judging from the symptoms, fully six months, and the cancer involved the body of the uterus. In this case the interesting feature was that the ovaries were simultaneously involved. This possibility existing in cases in which the body is diseased showed the importance of always removing the appendages, although formerly it had not been the speaker's habit to do so unless it could be done without trouble. The lesson learned in this instance, however, would lead him always to follow this procedure in the future.

Dr. Boldt presented a third specimen, showing a

SARCOMA OF THE OVARY,

removed on the previous day. The main symptoms present were menorrhagia and pain on the affected side.

A fourth specimen was one of

OVARIAN CYSTOMA,

with beginning malignant changes in the thickened wall of the tumor near its origin. It had existed over two years and had attained a large size. It showed the importance of operating early in all cases of ovarian tumor. All the patients from whom these specimens were removed were doing well.

Dr. R. H. Sayre presented a knee-joint, removed by amputation, showing lesions of

ACUTE OSTEOMYELITIS FOLLOWING TUBERCULAR ARTHRITIS OF LONG STANDING.

The patient had had knee-joint disease for five years, the trouble coming on after an attack of measles. Last July he was seen by Dr. Sayre, and his knee was at that time flexed and swollen. Abscesses formed and were opened. The patient went to the country, contrary to advice, without having proper protection for his knee, and when he returned there was more marked trouble in the knee, and he had a high temperature and other constitutional symptoms. The leg was amputated in the upper third of the thigh. The medullary canal was scraped out sufficiently, as it was supposed, but the patient now has a return of the high temperature, and there is evident extension of the disease in the bone.

Dr. Frank Grauer presented some specimens removed at autopsy from the body of a young man, showing

MALIGNANT ENDOCARDITIS

affecting the mitral, aortic, and tricuspid valves. There were infarctions in the spleen and small miliary abscesses in the kidneys and liver. In the left lateral ventricle of the brain a large hemorrhage had occurred which had extended both anteriorly and posteriorly. Throughout the brain there were also small extravasations and abscesses. Cultures made from the lesions in the kidney showed the presence of a micro-organism supposed to be a streptococcus. In the small intestine, in the neighborhood of the ileo-cæcal valve, were found small nodules thought to be tubercles, and a little above this point was another collection of tubercles. These were the only tubercles found anywhere in the body.

Dr. Grauer also presented a specimen showing

TYPHOID ULCERATION OF THE INTESTINE.

The Society then went into executive session.

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The Solubility of Quinine is said to be greatly increased by the addition of a little antipyrine.

# Correspondence.

## PROFESSIONAL OVERCROWDING AND THE SINGLE TAX.

To the Editor of The Medical Record.

Sir: In The Record, for June 22d, on page 700, is an item stating that a Western physician recently read a paper in which he showed that overcrowding in the profession would be prevented were the single tax on land values, as advocated by Henry George, in operation.

As the connection between the land-value tax and overcrowding in the ranks of the medical profession may not seem at all obvious to those whose only knowledge of the theories of Henry George is that obtained through the distorting medium of the daily press, and as any plan for making the struggle for existence more bearable should be received with attention by those to whom it is addressed, and especially by the more recent additions to the ranks, it may not be out of place for one of the many physicians who are earnestly laboring to bring about a realization of Henry George's plans, to try to show where the connection lies.

When we contemplate human society from the economic point of view, we find that the struggle for existence centres around the strife for the material things with which we gratify our necessities and desires, and which collecively we call wealth. Now, nature yields wealth to one thing only, and that is labor. But labor alone is powerless. It must have a field of operation; it must have the raw material to work upon; it must have opportunity. And the opportunity for labor is land.

No matter what particular kind of wealth a man may produce, directly, or indirectly, he must go for his materials to the great, and in the last resource the only, storehouse, the earth. (Here let me say, parenthetically, that physicians are, economically speaking, non-productive laborers. They belong in the same category as lawyers, actors, preachers, ballet-dancers, and the like, and are paid out of the wealth of the community, unlike productive laborers, whose wages consist of the fruits of their labor.)

But, if we allow land—the passive factor in the production of wealth—to become the absolute property of some, and there always a minority of the population (for in all countries, this included, the land is in the hands of the few, while the great mass is landless), it must necessarily follow that, as natural opportunities to labor are fenced in, those who are so unfortunate as to have been born outside the fence will be willing to pay to the owners of the fences a goodly price to be allowed inside. This premium, which is given in exchange, not for anything that the landholder has in his turn produced by labor, but simply for being granted the privilege of employing one's self on God-given opportunities, is called rent. And be it here noted, please, that in economics the term "rent" applies only to natural opportunities, and never to houses, or to anything made by the hand of man.

While population is sparse the monopolization by the few of the rightful heritage of all produces but little effect. But as soon as all the land is "owned" (which by no means implies that it is *used*) then trouble begins. The increasing pressure of population continually increases the premium which the landless have to pay for access to natural opportunities for labor, and thus the landlords are enabled to appropriate a continually increasing share of the products of others' labor without further exertion than collecting the rent. And in countries like our own, where not only the land is fenced in, but the ocean is fenced out by a tariff wall, so that men are forbidden, unless they pay a fine, to make the most profitable exchange of the wealth they have produced, of course the impoverishment of the many to the enriching of the few goes on at accelerated speed.

(I have not got to the doctor yet, but I am gradually approaching him, and promise to produce him shortly.)

Well, the increasing pressure of the landless against the parchment fences, called title-deeds, forces men to look about them for employment less directly connected with land than the one they have been accustomed to. It drives men from the country to the cities, in the hope that the infinite diversity of desires which is to be found wherever there is a large population may afford employment. Hence the phenomenon at present complained of wherever land is made private property, of the congestion of population in large cities.

It explains perfectly what our State assessors have reported, namely, the enormous increase in the land values of towns and cities, and the falling off in the value of farm lands. This is due simply to the fluctuation of population. For land value, represented in ground rent, is determined solely by demand, created by density of population.

As men become removed further and further from the means of actually *producing* wealth, they naturally seek for the means of obtaining wealth from those who have produced it. I have said that, economically speaking, professional men are classed as unproductive workers. The community needs them, and willingly sets aside a certain portion of its wealth for their maintenance. Hence, as an (apparently) easy way of making a living, men crowd not only into the medical, but into nearly all professions, especially into those where the element of success is not so much actual knowing as the art of making people think you know.

The farmer's son, who sees his father and mother slaving from morning to night with an unpayable mortgage on the farm as his prospective inheritance, and then notes that the country doctor apparently does little else than drive about behind a pair of fast trotters, and in addition that he wears a long-tailed broadcloth coat every day of the week, does not, I know, reason in this way when he decides to go to the nearest town that has a medical college to become a doctor. But though they are not *his* reasons, yet they are *the* reasons. He is but the puppet irresistibly controlled by the laws of economics. He is but following the law that impels men to seek to gratify their desires with the least exertion; a law, of which it has been said that it is to political economy what the law of gravitation is to mechanics. I follow it, you follow it, we all follow it. Not because we are lazy, but because it is a natural law. We follow it for the same reason that a brook runs down hill, not up—because we *must*.

Well, now, my medical brother, who is perhaps wondering how a living is to be made by giving advice free to pauperized patients at a dispensary, you may ask, how is the single tax, the land-value tax, going to remedy matters? Pray listen, and think it well over in the solitude of your office hours, for the matter interests you.

Clearly the way to relieve the overcrowding in our profession, in all professions, and in the ranks of labor generally, is to undo the conditions which have caused the overcrowding, and which we have just traced.

Throw open natural opportunities. Tear down the fences that keep men from the element which is life itself—the land. And the way to do it, the practical way, the feasible way, the just way, the *only* way, is not by seizing the land and redistributing it, but by exacting from those who now or at any time may occupy it, the full ground rental value, and take nothing else. Take for the uses of the community only the value with which it, in its communal function, has endowed the soil, and to which it is therefore rightfully entitled, and cease confiscating, as is now the custom, the hard-earned wealth of the toilers. Put the tax on monopoly, and take it from labor. Where the full ground-rent is absorbed by the community in the form of a tax, what man could afford to hold land idle that another man might want to use? He would either have to use it himself, by farming on it, mining on it, building a house or factory on it, or putting it to any other useful purpose for which it was fitted, in order to get the amount of the tax out of it plus a profit, or he would have to stand aside and let the man who would work it occupy it.

In this way all natural opportunities would be forced into the freest, fullest use, and no man would be idle, unless he chose to be; the rent that each man paid would but represent the equal rights of all others to what he is monopolizing; and the earth, given as the heritage of God to all his children, and not to afavored few, would return to the people once more.

The spectacles that now meet our eye—of freezing in the midst of unused fuel, of starving in the midst of stores of food, of wretchedness generally while all the means for relieving it are spread by the prodigal hand of nature on every side—would no longer disgrace our boasted civilization.

To you, my recent graduate, thrown so lately from your Alma Mater into an unappreciative world, the problem of overcrowding in the profession will most pressingly present itself.

Think it over, as you haply trudge up and down foul tenement-house stairs, the emissary of some health board, ladling out diarrhœa mixtures to sickly infants who are being crowded off this fertile earth every year by the thousand, and yet, who are born with rights to life not inferior to those of the richest landlord's child in the city. Ask yourself, why all this herding together of human beings? why all this poverty, hunger, and dirt? Don't, in your plenitude of knowledge, be hasty in your judgment and say it is because the people are lazy, drunken, and vicious. I think you would be the same were you condemned to such surroundings. I am quite sure I would be.

Go back to your office and wait, day in day out, for the patient that does not appear. Why is it that you have such a hard time to get along? Are you too, perhaps, lazy, drunken, and vicious? Is it not rather because those who now demand your services are debarred by unjust social conditions from producing the wealth wherewith to pay you? For that you *are* needed in the world there is no doubt, else you would not be sent under the guise of charity to relieve the sick poor. Try, my friend, to bring about juster social conditions, conditions that will not condemn thousands of men to stand in enforced idleness in one of the most sparsely settled of countries, like our own; and so by raising others you too will rise. If we would relieve our own overcrowded profession we must begin not with ourselves, but by helping those still more crowded and overburdened to emerge into conditions of freedom, into a better, purer, and nobler life.

WALTER MENDELSON, M.D.

NEW YORK.

## THE SINGLE-TAX THEORY AND THE DOCTOR.

TO THE EDITOR OF THE MEDICAL RECORD:

SIR: I see in your valuable journal of June 22d a reference to the article on "Overcrowding in the Medical Profession," by Dr. Cornick, of Mascoutah, Ill., which appeared in the *Journal of the American Medical Association* some weeks ago.

That article was of most striking merit, and I only regret (for the sake of our profession) that you were unable to give any extended abstract or summary in your widely circulated journal.

As members of the *most* liberal profession, I feel that it is our duty to take careful note of the progress of the "new political economy," and of the vast changes in our social structure of which it is unquestionably the precursor. The proposition to leave, unhampered by restrictive taxation, all the products of our industrial forces in the possession of those who practically create them, and to meet the common needs by drawing for public revenue upon those values which are solely the result of a community's growth and common industry, viz., land values,

should receive, if nothing more, at least our cold intellectual assent, as a mere fiscal method that is perfectly simple, absolutely exact, conducive to political purity in assessment and collection, most equitable, and with none of the objectionable features in the present method.

To me its advantages are vastly greater and more far-reaching. This single-tax, in its death-blow to speculative land-holding, would really give our industrial forces easy and continuous access to those natural opportunities from which all wealth must primarily be produced.

The greatly augmented production that would ensue, not being drained away in economic rent (ground-rent), would necessarily follow such laws of distribution as would elevate our industrial classes to a plane of proper remuneration, steady employment, and, as a consequence, ample comfort. Dr. Cornick very clearly shows how the proper share of this increased wealth-production would rest finally with the watchers over the health of the community. This is our selfish interest in this reform—the increase of our incomes.

The destruction of speculative land-holding would have two tendencies (apparently at first sight diverse, but really analogous). In our cities it crowds our poorer classes into tenements, while abundant building-sites are held out of use on every hand. In preventing this, the reform will settle that evil problem, "the tenement-house question." Only physicians can realize the resulting benefits to health and happiness, the lowered mortality, the improved morality, the lessened temptations to intemperance and vice, that would result from a gradual transfer of our tenement populations to smaller family-homes of their own. In our rural districts families are separated and isolated, while vast tracts of unused land lie between them. Their lives are thus narrowed, hampered, and restricted, while they are deprived of many of the advantages of our advancing civilization that might readily be theirs. In destroying speculative land-holding, rural population would tend to at least healthful density; and social pleasures and neighborly co-operation (which make up more than half of life) would begin to brighten the dull tedium of isolated country-life.

These are a few of the social improvements that we may accurately and absolutely predict; and it is the appeal that these make to the better, unselfish sides of our natures that should most attract us.

You speak of "Henry George's land-tax theories," and as a physician I wish to protest. I am too proud of my profession to neglect the opportunity of claiming for it the initiative in the greatest movement of modern times. To the famous Quesnay, the Court Physician to Louis XVI., and the intimate friend and adviser of the great minister Turgot, belongs the honor of having first proposed an "impôt unique."

Yours fraternally,

DAVID DEBECK, M.D.,

*Assistant to Chair of Ophthalmology, Medical College of Ohio; Librarian Cincinnati Single-tax Club.*

## MEDICAL NOTES IN THE NORTHWEST.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It is supposed by many physicians in the East that the profession in the West has not kept up with the rapid material development of that section. Doubtless this is true with reference to certain parts of the country, but it cannot apply to the Northwest. In some respects they are in advance of many of the Eastern States. This is particularly true with reference to medical legislation and examination. Minnesota has an excellent and stringent law for regulating the practice of medicine. This law is embodied in eight sections, the two most important being as follows:

"Sec. 3. All persons hereafter commencing the practice of medicine and surgery, in any of its branches in this State, shall apply to said board for a license so to do, and such applicant, at the time and place designated by said board, or at the regular meeting of said board, shall submit to an examination in the following branches, to wit: Anatomy, Physiology, Chemistry, Histology, Materia Medica, Therapeutics, Preventive Medicines, Practice of Medicine, Surgery, Obstetrics, Diseases of Women and Children, Diseases of the Nervous System, Diseases of the Eye and Ear, Medical Jurisprudence, and such other branches as the board may deem advisable, and present evidence of having attended three courses of lectures of at least six months each; said board shall cause such examination to be both scientific and practical, but of sufficient severity to test the candidate's fitness to practise medicine and surgery. When desired, said examination may be conducted in the presence of the dean of any medical school or the president of any medical society of this State. After examination, said board shall grant a license to such applicant to practise medicine and surgery in the State of Minnesota; which said license can only be granted by the consent of not less than seven members of said board, and which said license shall be signed by the president and secretary of said board, and attested by the seal thereof. The fee of such examination shall be the sum of ten dollars, and shall be paid by the applicant to the treasurer of said board, to be applied by said board toward defraying the expenses thereof; and such board may refuse or revoke a license for unprofessional, dishonorable, or immoral conduct. In all cases of refusal or revocation the applicant may appeal to appointing power of said board.

"Sec. 6. Any person practising medicine or surgery within this State without first having obtained the license herein provided for, or contrary to the provisions of this act, shall be deemed guilty of a misdemeanor, and upon conviction shall be fined not less than fifty nor more than one hundred dollars, or by imprisonment in the county jail not less than ten nor more than ninety days, or both fines and imprisonment. Any person shall be regarded as practising within the meaning of this act who shall append the letters 'M.D.' or 'M.B.' to his or her name, for a fee prescribe, direct, or recommend for the use of any person any drug or medicine, or other agency for the treatment, care, or relief of any wound, fracture, or bodily injury, infirmity, or disease; provided, however, this act shall not apply to dentists. Justices of the peace and the respective municipal courts shall have jurisdiction over violations of the provisions of this act. It shall be the duty of the respective county attorneys to prosecute violations of this act."

The examinations for license to practise are conducted with great impartiality, the applicants being known to the examiners only by the numbers on their papers. Any applicant for examination, who is a graduate of over five years' standing before making application, is considered an "old practitioner," while an applicant who is a graduate of less than five years is considered a "recent graduate." The latter class are required to attain a rather higher percentage in order to pass than the former. If the Board is somewhat uncertain about passing a candidate, a supplementary oral examination may be given upon those subjects in which the applicant has failed to pass an entirely satisfactory examination. Any applicant failing to pass the examination may present himself at any subsequent regular meeting of the Board and receive another examination. The Examining Board consists of nine members, two of which must be homœopathic physicians. No member of any college or university having a medical department is eligible to serve upon this Board. The actual operation of the Minnesota law has been exceedingly good. Since July 1, 1887, when the law first went into effect, 123 candidates have come up for examination, of whom 79 have passed. This law is a great step toward the suppression of quackery. The Secretary of the Board tells me that within the past three months 9 quacks have been driven from the State, 17 compelled to stop practice, and 20 to come up for examination. It is needless to say that

there has been much opposition to this law, which has resulted in several legal contests, but its constitutionality has been upheld by five different decisions of the courts. Montana passed a similar law last winter. In Wisconsin and Kansas the Minnesota law was killed by a small majority. Iowa, Missouri, West Virginia, and Dakota have the Illinois law in force. This law requires a diploma the recognition of which is based on the will of the Board, or an examination of those not possessing such a diploma.

Several small medical colleges in St. Paul and Minneapolis have recently consolidated into the medical department of the University of Minnesota. This institution requires a preliminary examination and a three years' graded course, so that the change has been a good one for higher medical education.

There seems to be a strong tendency toward specialism in the West. It is a question whether a halt will not have to be called soon in this direction. The lucrative returns and regular hours of some noted specialists have tempted many to abandon general practice. After all, however, the legitimate field of many specialties is comparatively narrow, in spite of the ever present "reflex," and if they become overcrowded, the art and reputation of medicine must suffer. The tone of the profession in St. Paul is exceedingly high, as anyone can testify who has had the pleasure of meeting many of its members.

HENRY DWIGHT CHAPIN, M.D.

ST. PAUL, MINN., July 24, 1889.

## THE CAUSE OF RICKETS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Some months ago, in a letter which you thought worthy of publication, I made the suggestion that the attention of the profession might well be directed to the consideration of the frequency and the cause of rickets as it occurs in the United States.

It is with great regret that I find there is a tendency, if I may judge by the paper contributed by Dr. Irving Snow, of Buffalo, on this subject, that more trouble is taken to explain the views of others than to give the simple results of actual personal observation of the disease as met with in practice. What we require is a careful clinical report of the facts of each case, without any theory as to causation, for there is no theory that satisfies all conditions. There is no evidence in England that want of proper food is a cause of rickets, for we find the disease quite common among the well-to-do classes in this country.

It is absolutely necessary for anyone who undertakes to investigate the question of causation to start with a perfectly free mind and to trust to nothing but actual observation.

There is but little to be gained by stating the opinions of the past in regard to this matter, for the most singular and irreconcilable differences exist. If we could obtain, in the first place, some accurate idea of the frequency of rickets in the different parts of the United States, it would be most interesting and valuable, and I venture to hope that you will use your influence in obtaining such a report. I am, obediently yours,

ROBERT LEE.

LONDON, June 24, 1889.

CHANGE OF NAME.—The name of the *Annales Médico-chirurgicales*, of Paris, has been lengthened to the *Annales de Thérapeutique Médico-chirurgicales*. We wish our esteemed contemporary a long and prosperous existence under its new title.

# New Instruments.

## RETINOSCOPE, PUPILLOMETER, AND STRABISMOMETER COMBINED.

BY JOHN E. WEEKS, M.D.,

NEW YORK.

A LONDON maker of optical instruments has introduced to the medical profession an instrument combining a retinoscope and pupillometer in the compact form represented in Fig. 2. Desiring to have a strabismometer always conveniently at hand, I have copied the frame of the London instrument and caused an instrument to be made combining a retinoscope, pupillometer, and strabismometer in the same compass.

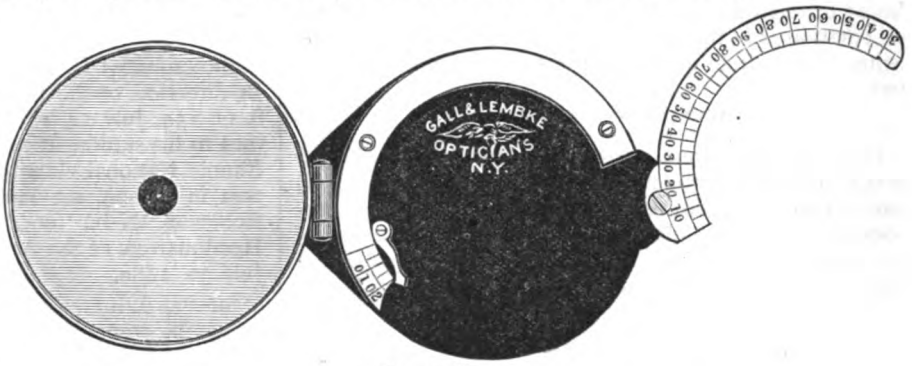


FIG. 1.—Open.

The retinoscope consists of a plane perforated mirror with a diameter of 40 mm. This I consider to be the best form of mirror for retinoscopy, as the illumination obtained is very good and the range through which it can be satisfactorily used is greater than with the concave mirror. The pupillometer consists, as represented in Fig. 2, of a perforated metal disk. The perforations are sixteen in number, with diameters ranging from one to ten millimetres. This disk is fastened securely to the back of the instrument.

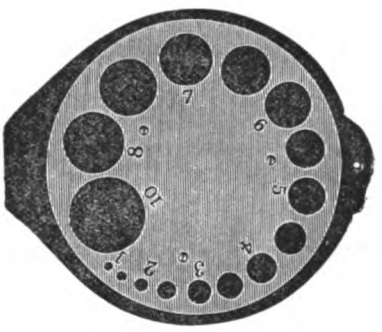

FIG. 2.—Closed.

The movement of any given point on the surface of the globe of the eye is about a central point, more or less fixed, and the excursion of a point on the cornea which serves to measure the degree of deviation in a squinting eye is, in the vast majority of cases, on a horizontal plane, and is virtually the movement of a point through the arc of a circle whose radius is about 13.2 mm. in the adult eye.

Because of the existing conditions above mentioned, ophthalmologists recognize the desirability of measuring the amount of strabismus in degrees. This cannot be accomplished by the strabismometer of Lawrence or the binocular instrument of Galezowski, as these instruments are designed for linear measurement, being marked in lines or millimetres not representing the tangential measurement of angles. The measurement of squint in degrees of a circle is made by use of the arc of the perimeter, or by the ophthalmotropometer of Snellin; but the use of these instruments requires more time than can

usually be given for such a purpose. To overcome this difficulty I have devised a strabismometer which consists of the arc of a circle with a radius of 14 mm., marked in degrees, so combined with retinoscope and pupillometer that the whole when closed corresponds in size to Figure 2, and can be carried in the vest-pocket.

As seen in Fig. 3, the strabismometer represents one hundred and fifty degrees of the circumference of a circle, and is marked as represented. When in position the antero-posterior axis of the globe, passing through the centre of the pupil, cuts the strabismometer at ninety degrees; the diameter of the circle of the strabismometer at right angles with the point marked ninety minutes, if continued through the globe, would pass through the centre of rotation of the globe, this centre being also the centre of the circle of which the strabismometer forms a part.

DIRECTIONS FOR USING.

Place the strabismometer over the eye to be measured so that its upper surface falls a very little below the horizontal plane of the centre of the pupil, the antero-posterior axis of the globe passing through the centre of the pupil, cutting the arc of the strabismometer at ninety degrees, when the eye fixes a point on the median line

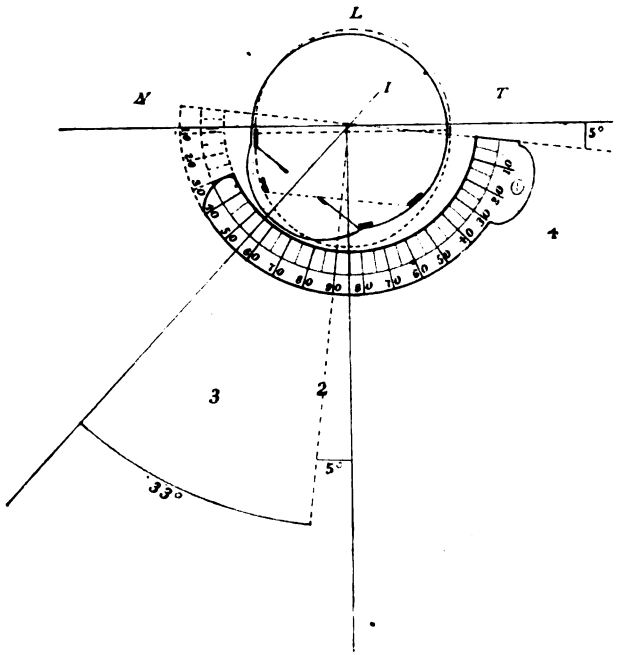


FIG. 3.—1. Centre of rotation. 2. Direction of optical axis when converged for 14 inches in front of eye. 3. Angle of deviation in a supposed case. 4. Strabismometer in position. *T.* Temporal side. *N.* Nasal side.

and on the horizontal plane at about fourteen inches distance. This may be obtained by covering the eye that usually fixes. After having obtained this position, remove the covering from the eye that ordinarily fixes, cause it to fix the point at fourteen inches, and, by following the movement of the deviating eye by movement of the observer's head, read off the degrees of squint from the graduated arc (Fig. 3).

All measurements of strabismus are approximate. This instrument, however, affords a strabismometer which gives sufficiently accurate results and is easy of application. The measurement of strabismus where the vision is eccentric can be best made by a binocular instrument, which I shall probably soon present.

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MONDEVILLE'S ANATOMY.—Dr. Pagel, of the Royal Library of Berlin, announces that he has found there the manuscript in Latin of a work on anatomy, written in 1304 by Henri de Mondeville, surgeon to Philip the Handsome, of France.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from July 28, to August 3, 1889.*

HALL, WILLIAM R., Captain and Assistant Surgeon. Granted leave of absence for ten days. Par. 5, S. O. 80, Headquarters Department of Dakota, July 27, 1889.

ROBINSON, SAMUEL Q., Captain and Assistant Surgeon. The leave of absence by Par. 11, S. O. 165, from these headquarters, is hereby extended ten days. Par. 8, S. O. 172, Headquarters Division of the Atlantic, July 30, 1889.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. By direction of the Secretary of War, so much of Par. 1, S. O. 159, July 12, 1889, A. G. O., as directs him to return to his station at the close of the encampment of the Illinois National Guard, is amended to direct him to report in person, not later than August 20, 1889, at Fort Robinson, Neb., for duty at that place. S. O. 174, Headquarters of the Army, A. G. O., Washington, D. C., July 30, 1889.

SHAUS, LOUIS M., Captain and Assistant Surgeon. Is hereby granted leave of absence for twenty days, on surgeon's certificate of disability. Par. 2, S. O. 173, Headquarters Division of the Atlantic, August 1, 1883.

HARRIS, H. S. T., First Lieutenant and Assistant Surgeon. By Par. 9, S. O. 176, A. G. O., August 1, 1889, the leave of absence granted in S. O. 140, A. G. O., June 18, is further extended two months.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 3, 1889.*

BRYANT, P. H., Assistant Surgeon. Ordered to temporary duty on iron-clads, Richmond, Va.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 3, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 37 | 13 |
| Scarlet fever | 29 | 2 |
| Cerebro-spinal meningitis | 3 | 3 |
| Measles | 31 | 1 |
| Diphtheria | 74 | 22 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

FOR PLUGGING THE NARES TO CONTROL EPISTAXIS.—Dr. Juan W. McCoy, of this city, sends a description of a device for controlling nasal hemorrhage not susceptible of control by the ordinary means. It consists of a flexible tube provided at one end with a stopcock, and surrounded at the other end by a bag of soft rubber. The bag is long enough to reach back of the posterior nares, while the other end projects from the anterior opening of the nostril. In the part of the tube surrounded by the bag are several perforations through which water may be forced. The tube is introduced and then the stopcock is opened, and hot or cold water is forced into the bag until the latter is well inflated so as to exert an even pressure, and by its expansion at either projecting end to effectually plug the anterior and posterior nares. Now the stopcock is closed, and the instrument may be left in the nose as long as necessary. Inflation may be effected by means of an ordinary Davidson syringe.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 36, No. 7 NEW YORK, AUGUST 17, 1889 Whole No. 980

## Original Articles.

### SOME RECENT SURGICAL CASES.

EIGHT CASES OF SUPRA-PUBIC CYSTOTOMY; ONE CASE OF SIMULTANEOUS DELIGATION OF LEFT CAROTID AND LEFT SUBCLAVIAN ARTERIES FOR AORTIC ANEURISM; TWO CASES OF DELIGATION OF EXTERNAL CAROTID ARTERY—ONE DOUBLE, ONE SINGLE; THREE CASES OF AMPUTATIONS; FOUR CASES OF EXCISION OF KNEE.

BY JOHN A. WYETH, M.D.,

PROFESSOR OF SURGERY AT THE NEW YORK POLYCLINIC.

SUPRA-PUBIC CYSTOTOMY.—Of the 8 cases of cystotomy herewith reported 3 were for removal of tumors; 2 were for the removal of calculi, and in one of these a tumor of the prostate was also removed; 1 was for removal of foreign body; 1 was for relief of chronic cystitis; 1 was for cure of vesical fistula.

The operations occurred within a year from May, 1889. All recovered. One case of cancer, greatly relieved and improved by the removal of the mass, suffered a recurrence in the bladder and lymphatics of abdomen, and died six months later.

The cases of stone and foreign body were cured. In one case of stone an enlarged middle lobe of the prostate was removed, enabling the patient to void his urine without a catheter, which he had not been able to do for many years. A third tumor case was relieved of the distressing bladder symptoms, and a fourth case, now under treatment, will without doubt be cured.

The case of cystitis was discharged cured after drainage and irrigation through the wound for three weeks, and the case of fistula was cured easily and promptly.

CASE I. *Supra-pubic Cystotomy—Tumor of Bladder—Epithelioma—Recovery.*—X——, male, aged forty, United States, unmarried. First seen July 7, 1888. Specific urethritis twelve years ago, never entirely cured. Discharge at times until two years back, when the stream of water became smaller and smaller until complete retention ensued. Sounds were employed. Seven months since, marked hæmaturia, with chills and high temperatures. Pain in lower part of abdomen. Has alcohol and tobacco habits. Syphilis excluded. Urine pale,acid, albumen ten per cent. Patient's condition not good, appetite fair, bowels regular. No family history of interest.

July 18, 1888.—Ether. Supra-pubic cystotomy. On entering the bladder I discovered a soft, spongy tumor, mushroom in shape, the pedicle attached near the neck of the bladder, the parasol-like expansion of the growth filling about half of the cavity. It was friable, broke down under the finger, bleeding considerably. It was easily removed, the attachment gouged out with a sharp spoon, bladder irrigated with Thiersch's solution, Trendelenberg's T-rubber drainage-tube inserted, wound packed with iodoform gauze.

July 22d (fourth day).—Temperature normal, no ill effects of operation. Patient improved as to comfort. Bladder washed out with Thiersch's solution through T-tube every four hours since operation.

Eighth day, tube removed; ninth day, temperature 103° F.; tenth day, 104° F.

Sixteenth day, urine ceased to escape through wound. By August 14th had healed entirely.

Sections under microscope showed mass to be carcinoma. Discharged August 15th, greatly improved. Neoplasm showed signs of recurrence in October, and patient died in December, 1888, from sepsis and exhaustion.

CASE II. *Tumor of Bladder—Supra-pubic Cystotomy—Recovery.*—J. P. L——, male, aged thirty-six, United States. First seen July. 1888.

September, 1883, patient had renal colic, which left him with frequent micturition and pains in left lumbar region for eighteen months, when a second severe attack ensued. Since then attacks have occurred at more frequent intervals, lasting from a few hours to several days.

During the paroxysms urination very painful and urine bloody.

Personal history good. Father died during paroxysm of renal colic, about sixty-four years of age.

Patient in good condition. Urine pale, acid, 1.018; trace of albumen, pus-cells, and epithelia. Seen in consultation by Drs. Sands and Gerster. Operation advised. Small elevation on floor of trigonum made out by cystoscopic examination.

July 20th.—Supra-pubic cystotomy. A small sessile tumor, about three-quarters of an inch across its base, and elevated about a quarter of an inch above the floor of the bladder, was found occupying the left side of the trigonum vesicæ, half-way between the left ureter's mouth and the urethral orifice. It was firm to the touch. With the sharp spoon it was scraped out. Hemorrhage arrested by hot Thiersch solution; T-shaped drainage-tube, iodoform gauze packing.

July 21st.—Patient comfortable; temperature 100° F.; bladder irrigated every three hours with Thiersch.

July 26th.—Tube removed; temperature normal.

August 7th (eighteenth day).—Wound in bladder closed.

August 15th.—Temperature 102° F., cause not known; quinia sulph., gr. v., twice a day.

August 29th.—Discharged cured.

This patient is still under observation. His bladder symptoms are relieved, but he has had three attacks of intense renal pain in the last six months. There is evidently either tumor of the kidney or renal calculus. I have advised exploration, and he has consented.

CASE III. *Supra-pubic Cystotomy for Tumor of the Urethra and Bladder.*—F. G——, female, aged twenty, servant, first seen in 1888. Family history of no interest. Patient complained of inability to pass water. On introduction of catheter, which went in easily, bladder was emptied. Examination per vaginam revealed almost complete occlusion of this canal by adhesion three inches from vulva; hymen present. Suspecting spasm of constrictor urethræ muscle, caused by the vaginal stricture, I stretched the urethra and removed the vaginal obstruction. The patient's condition was not improved. Left without catheterization the bladder would fill until it was greatly distended and then overflow. With the cystoscope I noticed what seemed to be a fold of the mucous membrane of the bladder which was pouched above the internal urethral orifice.

March 26, 1889.—Supra-pubic cystotomy. A small polypus was found filling up the urethral opening and projecting slightly into the bladder. With my little finger this was pushed outward through the urethra, and extracted by the external meatus. It was attached by a long filamentous pedicle to the urethra, growing backward into the bladder. As the urine accumulated, it was evi-

dently driven into the urethra, plugging it and causing probably spasm of the constrictor muscle. The wound in the wall of the bladder was closed at once with catgut sutures, and the wound above this packed with iodoform gauze. A soft catheter was fastened in the urethra and bladder. The patient recovered without any unfavorable symptoms. The wound in the bladder united well without ever leaking. She still has some difficulty in expelling the water, due, I believe, to weakness of the bladder-muscle from chronic over-distention, but this will, without doubt, be relieved by proper treatment.

CASE IV. *Supra-pubic Cystotomy for Vesical Calculus and Tumor of the Prostate—Recovery.*—M. B. M.——, male, aged sixty-seven, United States, came under observation August 28, 1888. Gave history of stricture of urethra of long duration. For seventeen years had drawn urine by catheterization. Has had various attacks of cystitis. Typhoid fever in 1885. Gives history of rheumatism and malaria. Excessive tobacco habit. Has been treated for cystitis by vesical irrigation.

August 28th.—Condition fair; urine, 1.020, amber, alkaline, pus-cells, triple phosphates, trace of albumen.

September 4, 1888.—Ether; operation. Phosphatic calculus, one inch and a quarter in longest measurement, removed. An enlarged third lobe of the prostate projected from the floor of the bladder in such a manner as to close the urethral orifice. Removed with sharp spoon. T-drainage-tube through wound, iodoform gauze. Patient had no rise of temperature. On sixth day tube removed; on fifteenth day wound had closed.

October 1st.—Discharged cured. Could pass water without catheter, although bladder power is much crippled from long over-distention and disuse.

CASE V. *Supra-pubic Cystotomy for Vesical Calculus—Recovery.*—September 24, 1888; Abraham L——, aged forty-six, Russian. About three years ago patient began to have frequent and painful micturition. These symptoms gradually increased. No hæmaturia. Has had hæmorrhoids at intervals for twenty years. History otherwise negative. General condition fair; temperature, 98° F.; urine, 1.020, acid, albumen trace, oxalate lime crystals, and phosphates. Exploration with sounds demonstrates presence of large calculus.

September 28th.—Operation. Ether. Flat, elliptical stone removed, measuring $2\frac{1}{2} \times 1\frac{1}{2} \times \frac{3}{4}$ inches. T-tube and iodoform gauze-dressing.

October 3d.—Temperature not over 100° F. since operation.

October 7th.—Temperature 101.2° F. Examination of wound shows a pustule on right side of bladder. This was laid open; drainage-tube inserted. Urine very cloudy, and incrustations forming on edges of wound. Has cough. Oil of gaultheria, gtt. v., t.i.d., and lithiated potash given. In this case a fistula persisted, which was scraped out and finally closed, and patient discharged cured.

CASE VI. *Supra-pubic Cystotomy for Removal of Foreign Body.*—July 25, 1888. G. A. V——, aged forty-one, United States. Ten years ago received fracture of last dorsal and first lumbar vertebræ, and since that time has had to use catheter to draw off his urine. A week ago, while introducing a metal spiral catheter, broke off a piece two inches long, which remained in the bladder. At my office I removed a piece of this with a lithotrite, but fearing laceration of urethra in any further attempt, advised cystotomy.

August 3d.—Operation. Ether. Catheter readily removed. T-drainage-tube.

August 8th.—No elevation of temperature. Tube removed.

August 17th.—Wound closed.

August 25th.—Discharged cured.

CASE VII. *Supra-pubic Cystotomy for Chronic Cystitis.*—N. U——, male, aged forty, laborer. Came under observation in 1888. He gave a history of chronic cystitis, lasting for more than one year. The urine did not contain pus or epithelia in sufficient quantity to indicate severe inflammation of this organ, and the patient was ordered full diet, alkaline drinks, and tonics. After eight weeks, no benefit having been obtained, it was determined to explore the bladder, and the high operation was done in December, 1888. No tumor was present, and the lining membrane of the bladder was only slightly injected. A drainage-tube was left in for three weeks, then removed, and the wound closed promptly. The patient's condition improved rapidly, and he was discharged certainly relieved and probably cured.

CASE VIII. *Supra-pubic Cystotomy for Vesical Fistula—Recovery—Cure.*—I. G——, aged sixty-eight, male. Was first seen September 2, 1888. He had been operated upon in May, 1888, by the high method, and a large stone removed. A fistula persisted, and on September 24th I cut into the bladder through the old cicatrix, dissected out the indurated tissues, enlarged the opening in the bladder by free incision, inserted a drainage-tube, which was removed on ninth day. On twenty-sixth day the wound was closed, and on November 7th patient discharged cured.

*The Operation.*—The preparation of the patient should be as for any ordinary laparotomy, for it is always best to have the bowels cleared out. The pubes should be shaved and a thorough disinfection made. After the anæsthesia is established the sacrum should be placed on a block or cushion high enough to give a decided tilt to the trunk, thus causing the abdominal viscera to gravitate toward the diaphragm. The bladder should now be washed out by injecting and evacuating through a soft catheter about twelve ounces of warm boracic acid solution (gr. v.–x. to ℥ j.). This should be repeated several times, especially when there has been a chronic cystitis. For lifting the bladder, a Barnes dilator or rectal bag well lubricated is introduced into the rectum and filled with from eight to ten ounces of water. About twelve ounces of warm boracic acid solution is thrown into the bladder. To prevent escape of this fluid, a string may be tied around the penis or a plug placed in the female meatus.

A longitudinal incision is made, about three inches long, directly over the symphysis pubis. The muscles being separated, the operator comes down to the fat and loose connective tissue which occupies the space between the muscles and pubic bones and the bladder. In order to expose more freely this space, with the dull scissors the attachments of the muscles should be clipped for about half an inch on either side and blunt retractors inserted. Carrying the finger down closely in contact with the inner surface of the pubic bones, the anterior wall of the distended bladder may be felt, and with the nail or handle of the scalpel the areolar tissue may be lifted from the wall of the organ. Should the peritoneum dip down unusually low, it will also be carried up out of the way by this dry dissection.

The bladder-wall is now in plain view. Should any vessels be seen crossing the proposed line of incision, they should be secured by passing a needle armed with fine double catgut beneath them, tying and dividing between the ligatures.

On either side of the proposed incision a middle-sized silk thread should be carried into the wall of the bladder, to support this organ after it is emptied. It will not matter if the needle perforates the wall. The thread should be left as loops to be removed after the operation. The incision through the anterior wall is made in the median line by pushing a sharp knife through and cutting upward from one-half to one inch. The fluid contents immediately escape. The incision should always be large enough to admit the finger, and may be enlarged by dilatation or incision if necessary. All downward pressure on the anterior wall of the bladder should be resisted by tension of the silk loops, in order to prevent a separation of the bladder from the tissues in front of it. Foreign bodies, calculi, etc., may be removed with the finger or delicate forceps. When a neoplasm is to be removed, a larger incision may be needed, and the size of the tumor

will in part determine the shape of the incision. When it becomes necessary to inspect the cavity of this organ, or to apply the cautery, the wound may be enlarged by a transverse incision just at the upper margin of the pubic crest. When the large size of the neoplasm can be made out beforehand, the transverse incision alone may be required. This incision should extend through all of the tissues, separating the attachments of the muscles, but division of the internal pillar of the inguinal canal and ring should be avoided. I have not yet been compelled to use this method, but it has been frequently done and no serious inconvenience from division of the muscles has, to my knowledge, resulted. In removing tumors the sharp spoon has so far been satisfactory in my work. The attached portion should be scraped out, going well into the wall of the bladder.

Papilloma and epithelioma are easily removed, but tumors resulting from prostatic hypertrophy offer considerable resistance. The scooped forceps used in tearing away post-nasal polypi are well adapted to this operation. When the neoplasm is malignant in character the cautery should be applied to the attachment. The bladder should now be irrigated and clots and débris thoroughly removed. The question of immediate closure of the bladder by suture, or of drainage by the T-tube, and subsequent closure by granulation, must depend upon several conditions.

Drainage is indicated: 1, When there has been severe and long-continued cystitis; 2, when intra-vesical hemorrhage is considerable; 3, when, from any cause, as thickness of the abdominl walls and consequent depth of the wound, disease of the walls of this organ, failing condition of the patient, etc., further operation may not be called for.

Should closure be determined upon, proceed as follows: Draw aside the edges of the wound down to the bladder with wire retractors. By traction on the silk loops already fastened into the bladder bring this organ as high up as possible. With a fine curved needle, armed with a small-sized catgut, insert the interrupted suture after the manner of Lembert's intestinal suture. The needle should not be made to penetrate the mucous membrane but be passed about one-eighth of an inch through the muscular substance, emerging just on the edge of the wound, then carried across to the opposite side and into the bladder-wall in the same manner. The stitches should be about one-eighth of an inch apart. By this suture the outer surface of the bladder is turned in and held in apposition. The superficial wound may be partly closed at the angles, but over the line of sutures in the bladder iodoform and sublimate-gauze packing should be used, and this part of the incision treated by the open method; for should the bladder leak the patient would be safe. A soft catheter should be placed through the urethra to keep the urine constantly flowing away, or it should be drawn off at frequent intervals. An accumulation of urine would endanger the line of sutures. The catheter should be discontinued about the tenth or twelfth day.

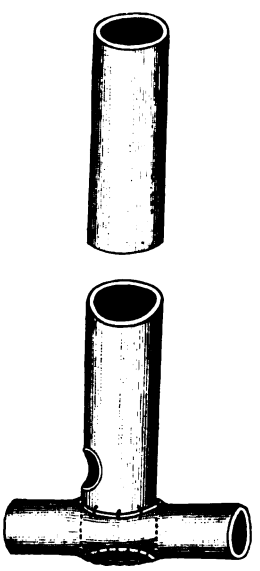

FIG. 1. — Treudelenberg's T-Drainage-Tube.

For drainage the T-tube is employed. This should be of soft rubber and about one-fourth of an inch in its lumen. It is carried into the bladder so that the cross-piece is well into the cavity and the wound packed snugly with iodoform gauze. After the patient is put to bed the lateral position should be maintained. A long tube should now be connected with the T-tube, and this fastened so that it will make traction on the bladder. This longer tube leads over the side of the bed to a vessel into which the urine trickles continuously. Every two or three hours during the first forty-eight hours the long tube should be disconnected and the bladder irrigated through the T-tube by injecting four to six ounces of warm boracic-acid solution. The irrigations may be less frequent after this and the tube removed from the fourth to the tenth day. The earlier the tube is removed after the fourth day the better, for as soon as adhesions have formed around the edges of the wound the danger of infiltration is avoided.

Supra-pubic cystotomy has at various times in the history of surgery been brought prominently before the profession, only to achieve a short-lived popularity and then to be practically abandoned. It is safe to say that within the last five years it has attained a prominence never before secured, and I think it is equally safe to assert that from its present established position it will scarcely again recede.

The greater perfection of surgical practice in our day, the proper selection of cases, the preparation of the patient, etc., have combined to lower the death-rate after a procedure once considered formidable.

*Conclusions.*—1. For the removal of tumors there can be no hesitation in preferring the high operation to perineal cystotomy. By no other method can a safe and thorough removal of a neoplasm be effected. 2. In vesical calculus, without regard to size, the supra-pubic operation is preferable in hypertrophy of the prostate, where this organ is elongated and thickened, and has thus made the cavity of the bladder more difficult of access. 3. In large calculus —two inches in diameter and over—the high operation should be chosen. 4. For stone in the female bladder it should be invariably selected, when the calculus is too large or too firm to be crushed and removed per urethram. 5. In male children perineal section for stone may be preferred, since the perineum is not deep, the organ quite easy of access, and the after-treatment less troublesome. 6. In female children supra-pubic cystotomy should be done when the calculus is more than one-half inch in diameter. 7. For foreign bodies other than calculi, not safely removable with the lithotrite, the same rules would apply as for stone. 8. As between lithotrity and cystotomy I am of the opinion that when the urethra is normal, the bladder not materially diseased (and therefore not in great need of the rest which drainage after cystotomy secures), the stone soft enough to be crushed, and not over two inches in diameter, lithotrity should be done, *always provided that the operator is well versed in the technique of this operation.* I do not know of a procedure requiring greater skill, a more practised hand, and clearer head than lithotrity. Given a tyro at both procedures, then by all means the high operation, for here, if the lines are adhered to, the end will be attained. 9. In drainage of the bladder for chronic cystitis in women, when the drainage is to be continued for many weeks and a urinal worn, the vaginal operation is indicated. For temporary drainage the high operation is best, since the wound closes spontaneously after the tube is removed. 10. In males I prefer the high section for drainage, for the reason that a fistula in the perineum offers more difficulty to close than one through the abdominal wall above the pubes. 11. I consider the chief objection to this operation to be the tendency to establishment of a fistula in the track of the wound. It is probable that this tendency will be greatly lessened by an early removal of the tube, say on the third or fourth day.

CASE. *Deligation of the Left Common Carotid and Left Subclavian Arteries, for Aneurism of the Aorta—Death.*—O. P——, aged forty-eight; United States; builder by occupation. Came under observation through the courtesy of Professor R. C. M. Page, February 16, 1889. History of syphilis commencing seventeen years before. Had been treated only a few months after chancre appeared. For a number of years patient had cough, with occasional attacks of dyspnœa. Sixteen months ago these symptoms increased, and, accompanying them, has severe pains

referred to the anterior part of the chest about the heart. Appetite good; bowels regular.

February 20th.—Temperature, 101°; respiration, 28; pulse, 132; systolic murmur loudest at right second interspace and travelling along arch of aorta; no expansion of innominate or carotid arteries. Radial pulse at left wrist weaker than right. Urine, 1.026; albumen, and numerous hyaline and granular casts. Patient deeply cyanotic. Moist râles over both lungs, loudest over right.

February 21st.—Oxygen gas, five minutes every half-hour. Temperature reached 104° F.; antifebrin. Diagnosis: Aneurism of transverse aorta; compression of trachea; chronic pneumonia. Operation advised as last resort.

February 22d.—I tied the left common carotid and left subclavian third division with large catgut; chloroform. The operation, including the anæsthesia, lasted thirty minutes; both incisions closed with catgut sutures. Patient rallied well considering his bad condition.

February 23d, 6 P.M.—Temperature, 103.5° F.; breathes laboriously, but evidently easier than before operation; pulse on right side full, absent on left.

February 24th.—Temperature, 101.4° F.; respiration, 28; pulse, 120; symptoms of uræmic coma appeared; only five ounces of urine from 5 A.M. to 11 A.M.; poultices over kidney region; hot-air bath.

February 25th.—Died from renal and pulmonary asphyxia at 3 P.M., seventy-two hours after operation.

*Autopsy.*—Right lung solidified in great part; large syphilitic gummata scattered throughout—fibrinous pleurisy; left lung about normal. Heart: Hypertrophy and

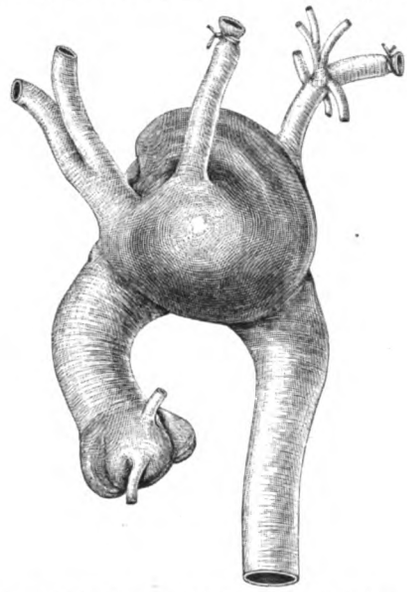

FIG. 2.—Showing Aneurism of Transverse Arch of Aorta.

dilatation of left ventricle; aortic valves roughened; arch of aorta dilated. Commencing with the origin of the left carotid, and extending beyond that of the left subclavian artery, an aneurism was situated. It was spherical in shape, about three inches in diameter, filled entirely with firm, stratified clots, and pressed heavily on the trachea and œsophagus from the seventh cervical to the second dorsal vertebræ. The chief direction of the tumor was upward and backward. Kidneys small, cirrhotic, coarsely granular surfaces, and adherent capsules. The aneurism was evidently due to syphilitic arteritis. Dr. Page had employed iodide of potassium faithfully for several weeks before I saw the patient, and although the consolidation of the aneurism was well advanced, the symptoms of dyspnœa increased. The increasing dyspnœa was in all probability due to the progressive consolidation of the right lung, an acute localized pneumonitis spreading from the gummatous patches.

The iodide of potassium did not favorably affect this process. I based my hopes of benefit from the operation upon the consolidation of the aneurism as a result of the deligation of the two arteries coming off in connection with the sac, thus damming the blood back upon the aneurism, changing the direction of the current, with more or less arrest of the circulation and consequent coagulation.

That the distal ligature will effect the gradual formation of an organized clot in an aneurism not immediately connected with the vessel tied, is now accepted.

In the *American Journal of the Medical Sciences* for January, 1881, I published a case in which, for a large aneurism of the ascending aorta, I tied the right carotid and subclavian arteries with immediate and marked beneficial effect. The tumor had eroded one rib, and presented as a large swelling, with a wall so thin that rupture seemed imminent, and through which the rush of blood and aneurismal tremor were easily felt. The tumor diminished rapidly in size, and the patient was greatly improved. She died of acute diarrhœa one year after the operation. The autopsy showed an aneurism springing from the ascending aorta, about three inches in diameter, filled with organized clot in its lateral and posterior portions. On the upper anterior surface, which had cut through the rib and sternum, the sac was thin, with a recent clot filling a space not quite one inch in diameter. The tumor was practically solidified, and had this patient not returned to her dissipated habits (alcoholism) I do not doubt her recovery would have been complete.

CASE I. *Deligation of both External Carotid Arteries for Arrest of Hemorrhage from Tumor of the Naso-pharynx.—Recovery.*—W. M——, aged sixteen; April 17, 1889. In March, 1888, a tumor was removed, by means of the Jarvis snare, from the vault of the pharynx. It recurred, and was again in part removed by the galvano-cautery loop on April 20, 1889.

During the night of April 27th, a severe hemorrhage occurred from the tumor, and on the morning of the 28th I tied both external carotid arteries between the lingual and thyroid branches. This operation was done preliminary to an attempt at removal of the neoplasm, but as the patient's condition was so bad the latter procedure was postponed.

On May 8th I split the soft palate, and with a key-hole saw I removed a part of the horizontal processes of both palate bones and the posterior portion of the vomer, to which bones the tumor was attached. This opening gave a full view of the vault of the pharynx and the neoplasm. With a Volkmann spoon I rapidly scraped away the attachment of the tumor from the vault of the pharynx. Notwithstanding the ligatures to the arteries, the hemorrhage was so alarming that I had to desist and rapidly plug the cavity with sponges. The patient is now under treatment by his father, a physician in Texas, who is applying at intervals the galvano-cautery to the region where the neoplasm was attached.

It has long been a matter of discussion among surgeons whether ligature of both external carotids should be done preliminary to removal of vascular tumors of the naso-pharynx.

In this case the benefit was very slight, as far as prevention of bleeding was concerned, when I removed the tumor ten days later; for by this time the collateral circulation had been established to such an extent that I was forced to desist, and to arrest the bleeding by packing with sponges.

It is of interest to note how thoroughly tumors of the vault can be seen by splitting the soft palate in the median line, and retracting the sides of this divided curtain. It is my opinion that this method will prove of great value when a preliminary tracheotomy is performed, and the larynx protected by packing the lower pharynx with sponges. Under such conditions the additional ligature of both external carotids should depend upon the vascularity and size of the neoplasm to be removed. This operation certainly renders the parts anæmic for several hours after the vessels are tied. It is not of value after

several days have elapsed, when the collateral circulation is re-established.

CASE II. *Ligature of the Right External Carotid, in removing an Epithelioma of Tongue.*—This vessel was tied preliminary to the extirpation of a number of infiltrated glands of the submaxillary and upper carotid region on the right side, and to removal of the right anterior portion of the tongue and the floor of the mouth. The patient recovered promptly without accident. The safety and propriety of this operation is now, I believe, universally accepted in surgery. I have tied this vessel about twelve times, successfully in each case, while the list is swelled now by many hundreds. Up to 1878, when I published my American Medical Association Essay on the "Carotid Arteries," in the whole history of surgery this vessel had been tied less than one hundred times, and not a single standard work on surgery of that day advised this operation in preference to deligation of the primitive carotid.

And yet forty-one per cent. died after this last operation, and only four and a half per cent. after ligature of the external carotid.

AMPUTATIONS.—Of the amputations which have come under my care, only three possess especial interest.

CASE I.—L. J. L——, aged forty-three, of Seattle, Wash. Terr., came under my care in December, 1888, with this history: While serving in Company B, Fifth New York Cavalry, at the battle of the Wilderness, May 5, 1864, he received a minié-ball wound through the left thigh, causing a comminuted fracture of the femur, about seven inches above the knee. He was taken to a field-hospital, cold-water dressing applied, and three days later

FIG. 3.—Bone showing effort at Repair after Gunshot Fracture of Femur. At *a*, sequestrum with two pieces of lead buried in the bone.

hauled in an ambulance about twenty miles to Fredericksburg, where a starch bandage was adjusted. This was removed later, extension made, union secured, and discharged as cured, September, 1864. In 1869 inflammation took place at the seat of injury, pus discharged, and several pieces of bone came away.

The sinuses persisted from this on to 1887, when a severe inflammation was established, and patient was compelled to use crutches. The discharge of pus increased, his health failed, and when I saw him, through the courtesy of Dr. Leo, of New York, in December, 1888, he was pale, emaciated, and evidently suffering from prolonged sepsis. There were six or eight sinuses opening out between the knee and trochanter, and the soft tissues were infiltrated with pus. A piece of lead had escaped through one of the openings a few days before. The urine was normal.

In consultation with Drs. Leo and Bryant, it was determined to explore the seat of injury and perform necrotomy or amputation, as the conditions might justify. I did this January 8, 1889. The soft parts were wholly undermined with sinuses running in all directions. The bone was, for about seven inches in its length, incrusted with a rough callus, with several large spines projecting. Six inches above the joint a large sinus led into the bone, and this was partially filled with a piece of dead bone. This was evidently the point where the missile had entered, for two bits of lead were buried in the bone at this point. Considering the bad condition of the bone, the extensive infiltration of the thigh, and the patient's exhausted condition, I determined to remove the member, and amputated above the middle of the femur. The patient made a good and rapid recovery, and returned to his home.

The interesting feature of this case is the length of time the pieces of lead remained in the bone before producing ostitis.

CASE II.—M. B.——, aged sixty-nine, residing in Western New York; was seen in January, 1887. He had been a healthy man up to three years ago, when he had diabetes mellitus. The sugar would disappear at intervals and then recur. In August, 1888, gangrene of the left foot was noticed, commencing in the great toe and gradually involving the foot. When I saw him the line of demarcation was not well established; the entire foot was swollen and œdematous, and the patient was evidently failing. He had been in bed four months, and was helpless. I amputated at the middle of the leg, using ether as the anæsthetic. The arteries were calcareous, and in order to hold them with the catgut ligatures I was compelled to include some of the soft tissues with the vessels. Without this the ligatures would cut through. The patient rallied from the ether, had suppression of urine, and died from uræmia thirty-six hours after operation.

This case was no exception to the rule that any operative interference is dangerous in senile gangrene with diabetic urine. And yet we know that the risk of amputation is justifiable when death from sepsis is inevitable.

CASE III.—G. S. A——; aged twenty-four; United States; single; stenographer. He had been operated upon in Roosevelt Hospital for osteo-arthritis of the left knee, for which exsection of the joint was done.

Osteo-myelitis of the tibia and femur was discovered when I saw the patient, several weeks later, and for this I amputated the thigh, just above the knee, on February 4, 1889. On cutting through the bone I found the medulla entirely destroyed, the canal containing a purulent fluid which discharged itself as the femur was divided. The shell of compact tissue was very thin, leaving the medullary cavity about twice the usual size. As the patient's condition was too feeble to withstand the risk of a prolonged operation, as well as the increased danger of amputating nearer the hip, I rapidly scraped out the canal up to the trochanter, irrigated it with 1 to 1,000 sublimate solution, and introduced a drainage-tube long enough to extend from the trochanter out through the flaps. This tube was not perforated, so that when the nozzle of the irrigator was introduced the stream of sublimate solution passed entirely up through the tube and flowed out by way of the medullary canal.

The tube was shortened one inch a week for five weeks, and was entirely removed at the end of eight weeks. The patient recovered without any distress, and is entirely well, with a long, healthy stump. This is one more case in proof of the great reparative power of bone, if only healthy drainage is secured.

Of the excisions, the following four cases are here reported.

Excision of Knee-joint.—Case I.—W. A. R— , aged nineteen; United States; student; first seen in June, 1888. Two years before this date he began to have pains in the left knee, not severe in character, but enough to annoy and constantly irritate and alarm him. Under the advice of his physician he began the use of crutches, and later a plaster-of-Paris dressing was applied at intervals. The knee continued to enlarge, though it was not painful unless he put his foot to the ground and brought the weight of the body upon it. When seen by me, in June, 1888, he was in about the condition just described, and hoping to save him from an operation, and with the advice of Dr. V. P. Gibney, a Thomas long splint was applied. This was faithfully worn, but without improvement. In February, 1889, the pain was much increased, symptoms of osteo-myelitis supervened, and I had the lad sent to New York from his home in Bristol, Tenn.

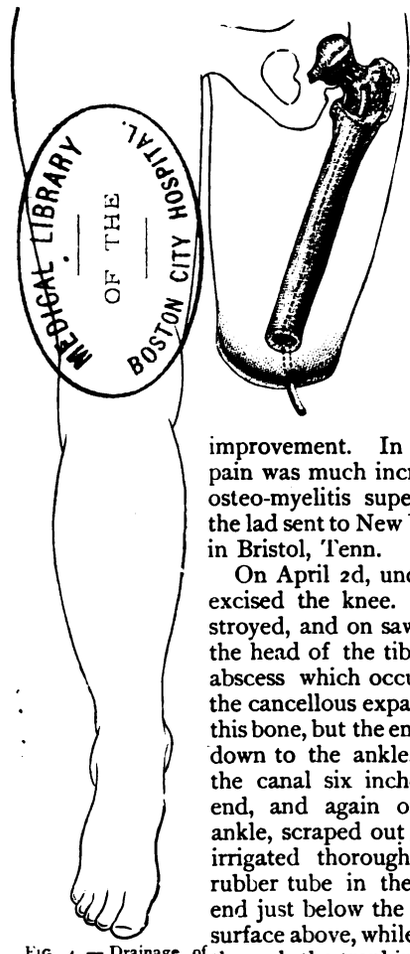
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Fig. 4. — Drainage of Cannulated Femur in Amputation for Osteo myelitis.

On April 2d, under ether narcosis, I excised the knee. The joint was destroyed, and on sawing a section from the head of the tibia I opened into an abscess which occupied not only all of the cancellous expansion of the head of this bone, but the entire medullary canal down to the ankle. I trephined into the canal six inches from the upper end, and again one inch above the ankle, scraped out all diseased tissue, irrigated thoroughly, and inserted a rubber tube in the canal, leaving one end just below the level of the sawed surface above, while the other projected through the trephine hole at the ankle. The condyles of the femur were sawn away, the bones fastened together with my steel fixation drills, and the wound closed.

April 3d.—Doing well, slight oozing; temperature, 100.6–102.2° F. Given antipyretics and stimulants.

April 4th.—Temperature, 100.8–101° F. Received antifebrin, gr. v., once, at 4.15 P.M.

April 5th.—Temperature, 99.2–101.8° F. Doing well. One dose antifebrin, gr. v., at 6 P.M.

April 7th.—Temperature since April 5th, 99.2–100.4° F. No antipyretics.

April 14th.—To-day temperature 98.6° F., all day, for first time. Quinine stopped.

April 17th.—Doing well.

April 27th.—Dressed. Union perfect along line of section; all drains and drills removed from about knee-joint. Perfect asepsis. Long drain extending down shaft of tibia pulled out and shortened. No irritation of skin about joint. Light gauze dressing applied.

May 4th.—Plaster splint put on, extending from hip to ankle. Patient to be up.

May 17th.—Long tube removed from tibia. Patient's condition improving.

May 20th.—Plaster removed; obliged to insert small drain in tibia shaft. A light dressing applied, with poplar splints. Patient up and about. Improving rapidly.

Case I.—F. B——, aged twenty-four, Italy, laborer, seen first January 31, 1889. Three years ago began to have pain in right knee, which was soon followed by swelling. For two years had used cane or crutches. Of late has had fever daily. Present condition: Knee swollen, synovial pouches very prominent, leg flexed on thigh about forty-five degrees; temperature, normal; general condition, fair.

February 5th.—Operation; ether.

February 16th.—Complains of slight pain in knee; temperature ranged from 99° to 101° F. since operation; urine has to be drawn off occasionally by catheter.

February 21st.—Wound dressed first time and drills removed; healing nicely.

February 28th.—Dressing changed.

March 6th.—Dressing changed.

March 13th.—Dressing changed; about on crutches.

April 3d.—Discharged perfectly cured.

Case II.—Amanda R——, aged twenty-six; United States; cook; first seen March 21, 1889. Family history negative. Patient has had slight cough for five or six years; once had hæmoptysis. Ten months ago developed sudden painful swelling of left knee; integument reddened. This lasted for three months, during which time there was continuous fever. Leg became flexed on thigh, and was never since extended. Present condition, fair; temperature, 98.6° F.; left knee, irregularly enlarged; leg flexed at ninety degrees on thigh; almost complete anchylosis; attempts at motion painful.

*Diagnosis.*—Subluxation and partial anchylosis from rheumatoid arthritis.

March 26th.—Operation; ether.

March 27th.—Rested well; temperature, 99.6° to 100.6° F.

April 6th.—Temperature, 98.6° to 100.4° F.

April 22d.—Wound dressed first time; union perfect; drills removed.

May 2d.—Wound again dressed.

May 16th.—Discharged perfectly cured.

Case III.—Mrs. T. O'R——, aged thirty-three; housewife; Ireland; seen first, December 26th, with history of painful enlargement of left knee for more than one year. She could not walk without crutches, and was evidently suffering from chronic sepsis.

December 27th.—Excision of joint under ether narcosis. Wound cleansed and surface freely dusted with iodoform.

December 30th.—Temperature, 102° F., controlled by antifebrin, but would rise when effect of medicine wore off. As sepsis was scarcely possible, iodoform poisoning was suspected, and, on examination of the urine iodine was found present.

January 4th.—Wound dressed.

January 13th.—Wound dressed.

January 21st.—Wound dressed; drills removed.

March.—Patient moving about on crutches. Small sinus on right anterior aspect of knee. In April this was laid open, scraped, and healed quickly. Patient cured.

*Résumé.*—These cases, with others heretofore operated upon, confirm the freedom from danger which this procedure enjoys. I have so far not lost a single case of excision of the knee. Occasionally failure of the operation occurs as a result of recurrence of ostitis in the bones at or near the line of coaptation. The chief interest is in the complete fixation, by means of the drills, which gives perfect rest. This, with the aseptic technique and dressings, permits the parts to remain undisturbed until union is secured.

In three of these cases the original dressing was changed on the twenty-fourth, sixteenth, and twenty-seventh days, respectively. In the other instance too much iodoform necessitated a change on the eighth day. In cases of extensive disease of the tibia or femur, where the patient is greatly run down, amputation should be seriously considered in place of exsection. Yet the safety of exsection would justify an effort of saving the limb where doubt may exist.

The operation which I prefer is as follows:

Under the strictest asepsis the leg is cleansed, the foot

elevated to empty the extremity of blood, and a rubber tube tourniquet applied above the middle of the thigh.

With the leg straightened out, an incision is made across the centre of the patella, and down on each side, until the level of the posterior surface of the tibia is reached. These points must be low in order to secure free drainage. The skin flaps or cuffs are now dissected and rolled up until the upper one is turned back from two to three inches, the lower about one and a half inch. As the flaps are held well away by assistants, the operator cuts down to the femur through the tissues, parallel with the attached edge of the reflected flap, lifting everything from the anterior aspect of the femur and its condyles, together with the patella, the attached fringes, ligamentum patellæ, and coronary ligaments, thus clearing in one mass all the tissues which envelop the anterior three-fourths of the joint.

By sharply bending the knee the crucial ligaments are exposed and divided, the lateral ligaments cut away, and the disarticulation effected. In stripping the attachments of the ligamentum posticum Winslowii from the tibia and femur, the operator should closely hug the bone and thus avoid wounding the vessels. This dissection should extend about three-fourths of an inch below the level of the tibia and one and a half inch above the lowest surface of the condyles. Determining now the amount of bone necessary to be removed, a cloth retractor is applied so as to protect the soft parts from bone detritus or injury, and a slice thick enough to freshen the head of the tibia is sawed away, as nearly as possible parallel with the normal plane of the articular surfaces. Should the section expose a focus of disease which dips down into the bone, this should be cleared out with a scoop or Volkmann spoon, and finally mopped with a strong bichloride solution (1 to 500).

The section through the end of the femur should now be made. It follows that if the limb is to be straight in the position of anchylosis the sawed surfaces of the two bones must be parallel. I have found it of great value to employ this method. By pulling on the foot the limb is fully straightened, and the articular surface of the femur separated from the sawed surface of the tibia. If the operator will now start the saw into the femur, sighting by the flat face of the tibia, the instrument will cut directly parallel with this. If by error the section of the tibia has been slightly oblique, that of the femur will have a like obliquity, and therefore the bones will fit snugly with the extremity straight.

The next step is to dissect away with forceps and curved blunt scissors all the diseased capsule. This should be done thoroughly, and even the bursæ that communicate with the joint should be cleaned out. If care is not taken, a portion of the sac which extends up beneath the quadriceps tendon will not be removed. All bleeding points should be tied with catgut and all hemorrhage stopped. The bones are now brought in exact apposition, and while so held the steel drills are introduced. I usually carry two of these in from below upward, passing them through the skin about two inches below the sawn surface of the tibia, and directing them obliquely through the tibia into the femur. When the end of the drill has reached the compact substance of the femur, it is stopped, the handle unshipped, and the drill left in position. Three are used, one on either side from below, and one directly down the median line from above, entering the femur and passing into the tibia (Fig. 3).

As the leg is now held steady, the edges of the wound in the skin are sewed together with catgut, and two short bone-drains inserted at the inferior angle. I no longer use rubber drains, having had considerable trouble with the sinuses that persist after their removal. If the absorbable bone-drain is not at hand, twists of catgut will suffice. Aseptic dressings and layers of veneering as a splint are applied under firm compression of a roller. Over all one layer of starched crinoline bandage is placed. This dressing is allowed to remain on for from two to three weeks, and when changed the drills are pulled out.

## SHAKEN MILK.

By JOHN C. MORGAN, M.D.,
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EVERYWHERE this dietetic paradox confronts the physician, viz., that milk—cows' milk—is the best possible representative food; that it "contains every element of nutrition," hence, that it is *the* typical diet for the sick of all ages, as well as for the healthy; this on the one hand, and on the other, that there are few articles from which worse results may accrue to individuals, young and old.

"Starving on cows' milk" is a common phrase; and "milk is bilious," or "constipating," or causes diarrhœa, or headache, indigestion, etc.; and these often parry our thrusts at malnutrition. "Acidity of cows' milk," the massiveness of its curd contrasted with human milk, with its fine flaky curd, evidencing faulty digestive processes; its deficiency in oil and sugar—all these are quoted, endlessly, to explain the paradox, and doubtless all are significant; but there are other important considerations which are less considered, and these are, in my judgment, largely as follows:

Firstly, human milk, drawn by the child, is a nascent life-product. Cows' milk, at its first emission, is equally so. Secondly, both are living fluids, and their contained cells are the site of vital metabolisms, all, doubtless, promotive of assimilation and of digestion itself. Thirdly, their oil globules and casein granules are sundered and enveloped by their containing shells of albumen and the watery menstruum.

Milk which has died, whether human or cows' milk, has ceased to be nascent, has ceased its living metabolic cell-mutations, has become a mere physical or mechanical admixture of bodies of unequal density and specific gravity, whose particles separately mass themselves, and within a few hours, if undisturbed, form crude strata, as cream, heavy caseous milk, and whey; each, after longer intervals, becoming very distinct, as is proved by the so-called "candles" formed in the large test-tubes in use in condensed milk factories. Preservation on ice does but promote this change. Sterilizing processes, *per contra*, interfere with it, over and above the intended germ-destruction, inasmuch as the high heat, with agitation, prevents rapid separation. The housewife recognizes the same principles when preparing "curds and whey," or "slip," with milk and the pepsine-bearing rennet, choosing a cold and quiet place for the setting of her pan, her object being to obtain a half-digested, massive, unruptured curd, with its transparent substratum of watery albumino-saline fluid, or whey. Most stomachs can easily complete the digestive process thus begun—for it is nothing else—and it rarely disagrees with anyone. Should it do so, we may, by beating, or shaking it, break up the curdy mass (with the aid of an admixture of atmospheric air), thus reducing it to the finely comminuted flaky state so admired in "mothers' milk," and intimately mingling it with the whey at our option. Afterward, the process of curdling being complete, these particles have but feeble tendency to reunite; are, indeed, until decay sets in, in excellent condition for the full play of the digestive organs.

Cows' milk, as received from the milkman, especially in hot weather, has undergone an incipient change of like nature. Chilled and quiescent during the night, the evening's milk is combined with that of the early morning, but both are carefully deprived of all remaining "animal heat." The whole becomes as one by this treatment. The motion of carriage opposes, but the tendency to mechanical separation has already fairly set in. Received now at our dwellings, and transferred to the refrigerator, this separation goes on rapidly, and indigestibility progresses *pari passu*.

To counteract this change, so far as may be, would seem to be the dictate not only of science but as well of common-sense. To prevent the gastric struggle with curdy masses, one need but insure the comminution of those masses, and thus invoke mutually repellent forces of

the minute particles of oil, water, and casein. The rapid digestion of each and all of these in the gastric and pancreatic juices should now occur without the aid, ordinarily, of pepsin or pancreatin, artificially introduced.

Such is the theory I would propound, and I have witnessed a number of cases of its practical and successful application. One of these is a stout, florid gentleman, of about sixty years, who is subject to the usual disturbances from drinking even the best quality of milk. The preparation now so popular under the name of "milk-shake," at an extremely low temperature too, agrees with him perfectly, and is readily and speedily digested. Another case is that of a physician, fifty-two years of age, convalescent from malarial fever, for whom I prescribed a milk diet; but who met me with the fatiguing statement that it was always disastrous to him. Lime-water did not better the matter. I now advised that it be violently agitated by shaking or beating, with a view to comminution of its massive elements—the oil and the casein—and their thorough diffusion in the whole of the fluid portion; this preparation to be taken in small portions until the teacupful was finished. This was duly accomplished by means of a conical tin cup, such as is used by bar-tenders, being closely fitted over the top of a glass of milk, and the whole vigorously shaken for some time just before drinking (in sips, as directed). The result was really charming. His own report was: "Here is a man who never has dared, in many years, to drink a glass of milk, but who now takes it, in the new way, every day, and is building up on it."

The use of milk just drawn from the cow is also important for infants and weakly persons; but most people can do admirably well, I opine, on "shaken milk."

Judging from my own experience, I think it is not too much to predict that in the future the medical and other attendants in typhoid cases, perhaps in infantile disorders and in many others in which patients refuse everything in the way of "sick-diet," and crave everything which they must be denied—particularly as to those who "cannot take milk"—will find the solution of the perplexing but essential problem in providing, as an indispensable utensil, the bar-room tin, and regularly using it, in the preparation of shaken milk.

A dilution of milk with one-tenth of water "scalded," not boiled, and taken hot, or even ordinary hot milk, is a noble stimulant (*versus* alcohol) in threatened collapse, and in debility in general. If shaken, also, it must prove invaluable in a wide range of low cases.

When a cold drink is more suitable, as in some febrile conditions, cracked ice may be added to milk before shaking; and lastly, when the taste is fastidious, strawberry or other fruit-syrup, or any other approved ingredient may also be introduced.

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THE INTERNAL USE OF CHLOROFORM.—Dr. Henry Shimer, of Mount Carroll, Ill., writes: "The letter of Dr. Wallace, in THE MEDICAL RECORD of July 20th, recalls a case that I had many years ago. I was called, in the early evening, to see a large, muscular man, who was in convulsions from alcohol. The spasms were tonic, the knees being drawn up to the chest and held there as rigid and immovable as the roots of an overturned stump. I learned that the man had had such attacks before, and that chloroform only gave him relief. I accordingly gave him six ounces by inhalation, with the effect of causing intervals of relaxation, but the spasms frequently returned. I sent the bottle to be refilled about midnight. I was then tired of watching with the patient, and began giving him chloroform internally in teaspoonful doses every fifteen or twenty minutes. After administering about six doses I was able to leave my patient. The only remark he made about it was after the first dose, 'There, you have played the devil with my mouth.' The next day he was able to go out, though not yet entirely recovered from his two weeks' spree."

## RÉSUMÉ ON MATERNAL IMPRESSIONS.

BY WILLIAM R. LOWMAN, M.D.,

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UNDER this heading may be classed all those peculiar freaks of nature connected with the genesis of species, all abnormalities resulting from nervous, psychic, and hæmatic influences that affect the fœtal subject while yet in the bosom of its mother, and all anomalies of spermatogenesis. But, specifically, in this let us consider the departures from "primogeniture" in woman and see how and why "this plastic ideal of the mother's emotional impress can be made to subserve for the congenital welfare of the child in utero," and see if sufficient demonstration can be found to show the mother's power for transmission of mental impressions as in those that impart likeness of physical configuration.

I. *History.*—Records are rich in stories showing the effects of maternal impressions. The ancients fully believed in them, as we have attested by Baptista Porta, Furnelius, and others. The belief that psychical, mental, and physical impress is implanted on the fœtus has always found a responsive chord in writers of all ages, not only from love of the mystic and wonderful that belonged to some, but also, we are forced to conclude after careful study, from actual and positive knowledge of such things by many of these authors. Of course, being of inferior knowledge, the majority therefore were easily led into erroneous conceptions often, but, with the light of succeeding ages focalized and knowledge concentrated and purified, we are compelled to give credence to the honest and oftentimes abstruse (comparatively) dissertations of Hippocrates and Fabius Quinctilius,[1] even though they assure, with seeming sincerity, that white parents begat African-hued offspring perforce of the antenatal impression of pictures of some Hannibalian hero hanging in the connubial chamber. Be this as it may, in sacred history[2] we have at least one well-attested case of the result of impression upon animals during heat in which Jacob craftily outwitted his father in-law.

Were we to search medical literature from remote antiquity, through all there would be a connected and unbroken chain of records from the markèd Cain and cursèd Ham on through mediæval folios, through Roman and Grecian history, mythical and true, to this day; and we would find numberless instances of strange freaks of nature and Minotaurean wonders attributed to sensorial and psychical impressions. The greater number are not reliable, but still there is sufficient to be of positive value. The tendency of the day is decidedly agnostic, and especially is this sceptical inclination manifested in regard to everything that is immaterial, that is not tangible. A man of science who meets a new fact simply arrests his judgment until he can explain it. The dogmatist takes refuge in the intellectual indolence of denial. Every scientist is naturally a materialist, but there are many who cannot see beyond the limit of their narrow sphere and who will not look beyond the tip of their Æsculapian proboscis, and anything that cannot be dissected, vivisected, or subjected to the microscope, kymograph, and balance is cast aside as valueless and without foundation. Such are hot-house plants developed in the labyrinths of laboratories, and, when subjected to the light of practical truth, it matters not how much sneering hauteur and enthusiasm they have for their pseudo-scientific knowledge, the well-attested results of observation must and will drive their puny theories to the wall. Often, also, crazed by a desire emanating from a would-be authorship, they proclaim theories completely at variance with facts for the sake of notoriety.

Many attempt to demonstrate the erroneous character

[1] According to Cœlius of Rhodes, cited in De Morbis Cutaneis. Dan'l Turner, London, 1716.

[2] Book of Genesis, chapter xxx.

of observation. I confess myself to have been very sceptical in regard to the effect of maternal impressions until facts compelled me to admit that a single well-observed and carefully tested fact is sufficient to upset a dozen *a priori* theories. Scepticism is the order of the day, and a sceptical incredulity is considered an evidence of superior wisdom. On anatomo-physiological principles the influence of maternal impressions in the production of monstrosities has been denied. The "coarse materialism" of many has ignored the demonstrated fact that other psychological impressions are admitted to produce other physical effects. Our mental impress is left on the offspring.

II. Can we assign any cause outside of an unsatisfying Kismet; or shall we, with the Moslem, exclaim: "Allah is good, Allah is great! What is to be will be—Kismet!" Or can we, by a close study of spermatogenesis, receive some light on this hitherto darkened subject? A good part of work that has been recorded is chiefly based on observations on lower animals, in whose analogous genesis may be reflected some light on the human phase of the problem. Our comprehension of the subject of heredity also affords a ray. It is known that an impression is much more easily received and transmitted to the offspring by an animal—this is to be accounted for by lack of the reasoning inhibition possessed by man. Heredity, well studied, affords a guide to a partial explanation. Criminals, according to latest researches, are born in a nascent state, to be developed by opportunity, and if this be so the converse must be true. The law of heredity shows that the mother, in most instances, stamps her individuality on the offspring more frequently than does the father; therefore an impression made on her, transmitted by nervous force direct or through control of hæmatic supply of the blastema, must be capable of a moulding influence. Is this strange? Lockwood [1] tells us that a human embryo twenty-three days old is not larger than a common house-fly ($\frac{1}{32}$ of an inch). Would it not be an easy, yea, plausible thing that, an impression could affect this minute object still in an unmoulded, unformed, and plastic state? We know that monstrosities are most frequently met with among impressionable people; that emotional disturbance of the mother can and does affect the child in utero. We know that the milk of an angry mother is liable to sicken a child, and must not the utero-fœtal connection be much more intimate? The embryo, prior to the beginning of the third month, is much more easily affected than later. This is consistent with embryological law. In embryological experimentation in production of monstrosities by artificial methods, "an interference with development at an early period produces a far greater malformation than one at a later period." [2] A philosophical explanation of the results of these maternal impressions would regard them as arrest of development, showing itself in atrophy or hypertrophy of a given part.[3] The impression may be sensorial or psychical, and may be of either a sudden and vivid, or of a continuous nature. But how do these impressions affect the child in utero? Is it through nerve-force regulating the flow of blood? Would this be an explanation to this seemingly inexplicable question? It is not so singular as it first seems that the transmission of a transient impression need not necessarily affect the mother to a great extent, yet materially injure the plastic, unformed embryo. There is no direct nervous connection, so far as we know. Is there something pertaining to this solution buried in nature's mystic breast; is there some channel yet to be discovered through which these influences find transmissal? The experiments of Dareste, Symkiewicz, and Fol in varnishing eggs in different ways, irregularly heating them, subjecting them to the motion of a railway car, produced different monstrosities; yet, while many scientists, great minds, and embryologists like Thomson, Geoffroy St. Hilaire, and Carpenter, and physicians like Velpeau and Flint were firm believers in it, a tangible cause has not yet been found. But, even though an almost inexplicable phenomenon, the effect of maternal impressions cannot be gainsaid by opponents. And if such a thing is or has been attempted, to him who does we would ask an explanation of a few acknowledged facts, to wit: vital force, genesis, evolution, and heredity.

Dr. Archibald Dixon [1] draws the following inferences and facts in reference to cause and effect after impression:

*a.* That during embryonic existence certain parts may be hindered or arrested in their development, while the other organs not directly connected with them may continue their evolution and become fully developed.

*b.* That ectopia viscera of the abdomen, spina bifida, cleft palate, hare-lip, webbed fingers and toes, etc., are only evidence of arrested development of embryonic abdominal, spinal, and maxillary processes, or, in the case of webbed extremities, the continuation of the embryonic hand or foot of the second month.

*c.* That any agency causing arrest of development of any portion of the fœtus must necessarily operate prior to the evolution of the part.

*d.* That the cause of the arrested development may be local or general, as injuries to the mother's abdomen, diseases of the uterus or its membranes, hereditary transmission of deformity. (We add positively sensorial and psychic impressions made on the mother!)

*e.* That excessive development of parts of the fœtus may obtain, resulting in nævi, aneurisms by anastomosis, supernumerary fingers and toes, etc.

*f.* That intra-uterine amputations are the result of amniotic bands or placental adhesions, fracture, or from constriction of a loop of the umbilical cord.

*g.* That amniotic bands or placental adhesions result from inflammation of the uterus, decidua, or inflammatory disease of the fœtus. (How caused?)

*h.* That false membranes causing these amputations may be afterward absorbed, as also the amputated extremity.

*i.* That so-called double monsters are the result of the development of double cicatricula on the blastodermic membrane of a single ovum.

*j.* That twins with a common chorion also result from the development of a double cicatricula on the blastodermic membrane of a single ovum.

*k.* That in either case there is always unity of sex.

*l.* That the nearness of the primitive traces to each other determines whether the impregnation will result in separate twins, or a double monster.

*m.* That in twins with a single chorion, or anastomosis of placental vessels, one fœtus may become perfectly formed while the other becomes monstrous.

*n.* That the development of the abnormality in such cases depends on local anatomical causes and is governed by fixed laws. (What are they?)

*o.* That every known malformation in the human race has its analogue in the lower animals, birds, fishes, and reptiles.

*p.* That arrest of development at any of the stages of embryonic life results, in part or in whole, in a permanent embryo of the stage at which the arrest took place.

III. Dr. Spitzka [2] classifies maternal impressions and their ensuing deformed results thus: "First, those in which there is no resemblance between the deformity and the impression to which it is attributed; second, those in which there is a superficial resemblance; and, third, those in which there is an almost photographic reproduction of the mother's impression in the markings of the child."

The first class has been the one to which statistical methods have been applied chiefly. Profound grief, mental or physical shocks acting on the mother, produce

[1] Annual of Universal Medical Sciences, v., 1888, p. 417.
[2] Dr. Spitzka, in Medical Classics, cited Professor Macalister, British Medcal Journal, April 25, 1885.
[3] See an article appearing in the Chicago Medical Standard of September, 1888.

[1] The American Practitioner and News, December 10, 1887.
[2] Medical Classics, p. 35, 1888.

defects mentally and physically in the child. Dr. Spitzka gives the statistics of Legrand du Saulle,[1] in reference to the *ouvriers* of Paris, of the defective children born in 1871, as "enfants du siège." The French are known to be exceedingly impressionable and emotional. Of 92 children born in Paris during the siege, 64 had mental or physical anomalies, and the remaining 28 were weaklings, 21 imbecile or idiotic, and 8 showed moral obliquity or emotional insanity. The financial crises in Berlin[2] (1875 and 1880) were followed by an increased number of idiots born. Can we not see the effects of the civil war in our country? Melancholy envelops many in its dark shades. The voice of the Southern muse, which once sang so sweetly, is it not hushed? Truly has the bitterness of Rama been upon us! Observers of large experience with the illegitimate[3] say that the mental suffering of the disgraced mother reacts on them, arrests development, produces mental deficiency, or in after-years, even though under the best moral care, that offspring oftentimes follows the mother in a life of sin. The sins of the parents shall be visited on the offspring, and this law of impression the means of transmissal.

A second class, in which the resemblance is superficial and the analogy is slight. A woman[4] is angling, her playing child is finned, and the fœtal impress is outline of a fish on the sacro-lumbar region. Another,[5] severely excited, one month gone, forced to copulate by a drunken husband, seven months later gave birth to a child, which now, though fifteen years of age and possessed of common-sense, sometimes staggers and mouths his words as a drunken man. A lady,[6] three months *enceinte*, while scrubbing, was severely shocked by her husband, who from behind suddenly flaunted a large swamp-owl in her face; five months later a child was born with sharp, aquiline nose, receding chin, and very large, prominent eyes. The child, now a man, so resembles the swamp-cyclops that he is known far and wide by the appellation of "Owl-eye C." A timid, city-bred wife,[7] while pregnant, was called on to assist in disembowelling a hog. She was afterward delivered of a boy having a caudal appendix, "which, when he was in good health and flesh, would kink up, swine-like." The wife of a physician[8] discussed the pros and cons of hermaphroditismus with her husband. He also gave her some literature and illustrations on the subject. Eight months thereafter another incident occurred in the Æsculapian household which added to its census. The child had perfectly formed male genitalia, but just where the caudal extremity of the monkey is attached was a pretty fairly formed pudendency, but fortunately no cul-de-sac. The embryologist Von Baer's[9] sister carried through life a red mark on the forehead, shaped exactly like a flame. Her mother, during the last three months of pregnancy, had had this flame constantly before her. She had first seen it at a conflagration.

Under the third class a seemingly difficult phase is presented to us, yet we find many instances of almost exact reproduction of impression upon the fœtus. Dr. Reeves,[10] of Georgia, tells us of having been called in to see a patient whose hand had been severely crushed in a sorghum mill. After amputation, and before dressing, one of the patient's sisters-in-law present was requested by him to hold the stump. She was *enciente* at the time, and was eight months from date delivered of a well-developed boy, with the exception that the left hand in every particular resembled the stump. Dr. L. L. K——[11] has reported a case of "mental influence of mother on fœtus, exerted through two successive pregnancies." The shock was produced by a little daughter being severely burned by falling from a table upon a hot stove. The mother afterward gave birth to a child with the appearance of being severely burned, just like the little daughter, and it experienced like agonies. The child born in next labor was afflicted "in exact similitude to that which had caused the emotional reflex seal of the catastrophe."

The "two-headed nightingale," well known in dime-museums, was doubtless the result of a maternal impression.

Dr. B. R. Johnston[1] reports a case in which a monster was produced by a shock from the sight of the "two-headed nightingale." The patient was an X.-para. Menses ceased in March. In November she was told she was likely to have twins, whereupon she said she did "not care, so they were not Siamese." Soon after cessation of menstruation in March, she had visited the "two-headed nightingale," and fainted at the sight. Forceps and version were necessary at labor, occurring January 22d. The children were connected from neck to umbilicus. There was a common cord and common umbilicus. The connecting link was sufficiently lax to permit them to lie side by side.

Another well-known case is that of Ritta Christina, which lived eight months and eleven days.

Dr. Bechsinger,[2] of Para, Brazil, reported a case, doubtless due to an impression resulting from hypertrophy at a point where there is a natural tendency in that direction. An octoroon woman, in addition to a double vagina, had three legs. The third leg was attached to a continuation of the processus coccygeus, such as is sometimes found to a lesser degree in Sumatran Malays. The patient, who is at this time in Paris, has, besides two well-developed mammæ, a third double mamma just above the os pubis, and two vaginæ and vulvæ. Both vaginæ are well supplied with nerves, and natural pleasurable sensation is experienced in either. Sexual appetite is markedly developed. Having heard of a Frenchman who had two penes, four testicles, and three legs, she removed to Paris, France, to make his acquaintance.

The next[3] is the case reported to your honorable and distinguished body last year by the writer. The specimen is now in the hands of Dr. E. C. Spitzka, of New York, who is making researches in this field. Of the specimen, he wrote the following to the *Medical Classics:* "The case herein considered is probably the most remarkable one in the history of maternal impressions. . . . I therefore hasten to present to the same body of readers what is certainly an almost miraculous occurrence."

"Dr. W. R. Lowman, of Orangeburg, S. C., was called to attend a colored woman, living at Edisto, who presented the following history: About two months advanced in pregnancy, while passing through a copse of woods, she suddenly came upon a buzzard who, having caught a pig, had devoured the greater portion of its head. She was greatly 'shocked, mentally and bodily,' adds Dr. Lowman, and attacked with uneasy sensations in the hypogastrium. Two weeks after, these culminated in violent parturient throes. The doctor was called in at this juncture and learned the above facts. He diagnosed incipient miscarriage, which he succeeded in preventing. As soon as the woman recovered from the immediately threatening symptoms, she however discontinued the treatment recommended. One month (twenty-eight days) after this severe pains set in again, and the contents of the uterus were expelled. Fortunately Dr. Lowman was called in, and his careful examination led to the discovery of a remarkable body, which on first sight struck the doctor as resembling the body of a bird, about the size of a robin, and lacking the head. Even the skin resembled that of a plucked bird. The umbilical cord was normally attached, and the placenta, about two and a half centi-

[1] Revue scientifique, 1884.
[2] Neurologisches Centralblatt, 1886, p. 449.
[3] Mitchell, THE MEDICAL RECORD, July 16, 1887.
[4] The writer in Medical Standard, September, 1888.
[5] Ibid. [6] Ibid. [7] Ibid., 1888. [8] Ibid.
[9] Dr. Spitzka, in Medical Classics, cited Dr. Swift, New York Medical Journal, October 9, 1886, p. 407.
[10] Medical Briefs, 1882, cited by writer in Lusus Naturæ, Proc. Med. Assoc., S. C., 1888.
[11] American Journal of the Medical Sciences, 1857.

[1] British Medical Journal, 1885.
[2] Annals of Gynecology, May, 1888.
[3] Writer in Proc. Med. Assoc., S. C., 1888, and Dr. Spitzka in Medical Classics, December, 1888.

metres in diameter, also appeared normal. Dr. Lowman adds that the feet presented a spread claw like appearance, imitating a bird's foot even to the 'subsidiary posterior digit with its long claw.' . . .

"This 'amazing freak' is in every respect a mal-developed human fœtus. The shape of the bones, where exposed; the minute character of the articulations; the disposition of the fœtal membranes, all leave no doubt on this head. As unquestionable as this fact is, it is equally indisputable that the surface resemblance to a decapitated and plucked bird is something startling. The skin everywhere, except at the points of the extremities, presents the 'goose-skin' appearance. The little papillæ contain a darker spot, whose exact nature an examination involving mutilation of the specimen could alone reveal. The neck is long, bent over, ventro-lateral, and its terminal tissues appear rounded off smoothly. At one point is seen a loose vertebral arch. From present appearances there must have been some maceration, as the end of the femur is exposed and the left leg is distorted upward; probably through the expelling force of the uterus. The upper extremities terminate at the distal humeral end, which is covered by a membrane continuous with the subcutaneous tissues. At one place the cutis is raised from the right arm. The disposition of the thighs and legs is marvellously bird-like, particularly in the contour of the muscular masses. The feet are human feet, exhibiting a tendency to webbing of the toes, of division beyond the metacarpo phalangal line, and on the left foot, most remarkably, a claw, set back as in the bird's! The dorsum is prolonged into a caudal process, repeating the disposition of a bird's. I reserve a more detailed analysis till I can accompany it by more exact delineations. [This will soon appear in *Medical Classics*.—W. R. L.] Provisionally, I would say that this case fulfils one condition demanded by Hunter and Darwin, and demanded in vain, *i.e.*, the woman related her impression before the fœtus was delivered. Its explanation is therefore not an after-thought. A most interesting speculation may be indulged in regarding the unconscious psychological process and impression which combined the impression of the bird, which had its head, with the headless character of the pig. It may be also questioned whether the—to a woman—familiar figure of a plucked bird was superadded. The chest exactly resembles a robin's breast. Certainly, as a whole, the resemblance externally to a bird is so great that before the days of comparative anatomy and embryology superstition would have undoubtedly found much food in this specimen. Dr. Lowman's case now offers to us a valuable and unimpeachable permanent record of a maternal impression."

And what adds to the peculiar interest and value of this case is the fact that in the next pregnancy of this same woman a completely analogous incident occurred, except that when the woman aborted (March) she was further advanced. The fœtus must have been dead in utero for two weeks or more before the mass was expelled. Decomposition was considerably advanced, and the fœtus was crushed and macerated. Still, the fragments examined presented almost exactly the contourage of the first result of the impression, and some parts, particularly the feet, were in a much higher state of development. The legs were very similar to those of a vulture. This specimen, although much decomposed, is still in a preservative fluid in my office, and while it is inferior to the first as a specimen, yet it is of great value since it shows the consecutive influence of the "emotional reflex seal."

The last case to which I will refer is that of an amelus, or limbless monster, reported by Dr. R. T. Cæsar, in the *British Medical Journal*, March 9th. He says: "I have in my possession a specimen, which was born at full term, and consists of a head and trunk fully developed, but no trace whatever of a limb, no appearance of intra-uterine amputation having taken place; no scapula or clavicles, and no acetabula, simply a fully developed male trunk. Fifteen months before the birth of this child I was summoned one morning by a midwife to attend the mother in her fourth confinement. On my arrival at the house I found an arm born, and the nurse holding on to it with all her strength, trying to bring the child into the world in this way, and this she had been doing for some hours. As may be imagined, the child was so firmly fixed in the pelvis that I found it impossible to move it, even under the influence of chloroform, nor could my friend, Dr. Young; so, in the end, we were obliged to eviscerate by opening the thorax in the axilla, amputating the arm, and delivering with forceps. The child, of course, had been dead some time. When all was over, and our backs turned, the stupid nurse allowed the mother to see the mutilated remains, which considerably shocked her. Fifteen months after, she was delivered of the subject of this note. How far we can call this a case of maternal impression I will leave your readers to decide."

IV. In view of all the facts adduced above, would it not behoove us, in behalf of ourselves, in behalf of our country, in behalf of the human race, to advise together for means of treatment? And there being nothing applicable save prevention, should there not be some law to enforce legal hygiene in this particular direction? Plato, in the "Seventh Book of Laws," after discussing how easily impressions are stamped upon newly born infants, says: "Nay, more, if I were not afraid of appearing ridiculous, I would say that a woman during her year of pregnancy should of all women be most carefully tended, and kept from violent or excessive pleasures and pains; and, at that time, she should cultivate gentleness, benevolence, and kindness." It seems that mediæval legislation was in some instances more enlightened than that of to-day. Our authorities "allow horrifying pictures of museum freaks to be placarded all over town, thus risking the production of numerous deformities." While Bavaria[1] banished "a maid with two heads" from her limits, "lest that by frequent looking upon her the imagination of women with child, strongly moved, should make the like impression in the infants" they bore in their wombs, the Roman aristocrats[2] recognized the law of maternal impressions and considered their wives sacred during the first months of pregnancy. It is certain that the mind is more susceptible at this time to impressions. The Romans therefore jealously guarded their wives against external mal-impressions of a shocking character at such times, and surrounded them during the whole period with beautiful objects and agreeable sights and sounds. The result is well known. We have as their progeny a race of high artistic development, which has given birth to many like Michael Angelo and Patti. Nor could I better conclude this *résumé* than again to say:[3] "Let us consider these things, although they be seemingly unscientific, before we enter our final *nolle prosequi* upon them. There are many things and mysteries occult in nature's breast, of which we know not the *modus operandi*. The story of Minotaur, his savage lusts and escapades, and final overthrow by Theseus, is not, at least in theory, all a myth. And although the progressing enlightenment of the mind has already swept away, as was it a fate deserved, the belief in 'spooks,' mesmerism, spiritualism, 'equivocal generation,' zoöspermes, the supernatural power of bezoar, the exaggerated idea of the influence of the moon, and many errors of like kind, yet this fate is not in store for the influence of maternal impressions during gestation. 'Tis true—'tis no error—'tis no delusion. *Magna est veritas, et prævalebit.*"

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SUICIDE AND INSANITY.—A correspondent asks for information as to the relation between insanity and suicide, and whether the view held by some that a suicide must be insane is generally accepted.

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[1] Lycosthenes, cited by Ambrose Paré, Johnson's translation, 1579, cited by Dr. Spitzka, Medical Classics, 1888.

[2] See Medical Briefs, 1888.

[3] Peroration, Lusus Naturæ, Proc. Med. Assoc., S. C., 1888.

## SOME POINTS IN THE TREATMENT OF GONORRHŒA.

By BRANSFORD LEWIS, M.D.,

ST. LOUIS, MO.

In The Medical Record of July 20th Dr. E. P. Rice describes a method of treating gonorrhœa which has given him much satisfaction.

In the first place, believing in the theory that gonorrhœa is due to a specific microbe, the gonococcus, he advises the antiseptic plan of treatment. In order to carry this out, he inserts into the urethra, as far back as the prostatic portion, a soft rubber catheter; through this, by means of a glass syringe which he attaches to the distal end of the catheter, he injects two drachms of the following emulsion: Ac. boric., ʒ iij.; glycerine, ʒ j.; and hopes to see five or six treatments suffice to attain a cure.

There are some points in the above to which I would beg leave to take exception.

In the first place, to deposit two drachms of any fluid in the prostatic urethra would almost assuredly defeat the primal object of the operator—that of spreading his application over the portion of the urethra that is inflamed; for the muscular structures surrounding the urethra are so arranged that, at the triangular ligament, they divide the canal into two parts, the anterior and posterior urethra. That this division is real, physiological as well as anatomical, and not merely arbitrary, and for the sake of making finer but impractical distinctions, may be demonstrated in various ways, one being the very fact that, if we inject a quantity of water, say a quart, through a catheter whose eye is just distal to the triangular ligament, that same amount will return alongside the catheter and escape at the meatus; whereas, if we place the eye of the catheter just beyond (proximal to) this muscular ring, and then inject, the fluid will not reappear at the meatus, but will pass on into the bladder. Indeed this is the mode of irrigating the posterior urethra originated and practised by the recently deceased Ultzmann in chronic posterior urethritis. So, therefore, the bulk of the two drachms (aside from what has remained within the catheter) used by Dr. Rice, probably exercises its effect on the mucous membranes of the posterior urethra and bladder, and all that reaches the inflamed area does so by following in the track of the catheter as it is being withdrawn.

It has been determined[1] that the natural rate of progress of the gonococci, as they invade the tissues from the meatus backward, is notably a slow one; that, unless carried back by some accident or instrumentation, they do not reach the bulbo-membranous neighborhood until about the third or fourth week of the disease; and, furthermore, that it is only a minority of the cases in which the posterior urethra is involved at all, being preserved from this by the musculo-membranous barrier before mentioned.

It will be readily conceded, of course, that to treat any portion not involved in the inflammation is nothing short of "meddlesome surgery," aside from the risks, to which it leads, of infecting innocent tissues. So that the corollary of the above premises would lead us:

1st. To refrain from passing our instrument to even the deeper portion of the anterior urethra, in the early stages of the affection; and,

2d. Never to pass it beyond the compressor urethræ muscle, unless the posterior urethra be affected—which is always shown by well-defined symptoms.

Another question comes up: Is glycerine the best vehicle we can use in making our antiseptic emulsion? From its hygroscopic nature and rubefacient effect, is it not likely to be irritating, rather than soothing, to the raw and tender membrane? And again, in the presence of water glycerine loses entirely its lubricous properties; with the first urination out it goes, and the medicament with it, so that, until the next treatment, the membrane is minus the beneficent influence of the antiseptic.

None of these objections applies to vaseline or lanolin. They are perfectly bland and unirritating, giving rise, because of their presence, to absolutely no pain or irritation, but, on the contrary, mollifying that which already exists, by keeping the inflamed surfaces from rubbing against one another, and also, by the coating which they form, preventing the scalding contact of the urine. Water has little or no effect on them, so that they are persistent and adhere to the canal-wall even after several urinations; this assures the continuous application of the remedy, as well as of the protecting vehicle, and obviates frequent repetition of the treatment.

Of the two, vaseline and lanolin, the latter, in my estimation, is preferable. It is a far more elegant preparation; is more readily absorbable, carrying with it into the subepithelial layers, the stronghold of the cocci, the germicide with which it is charged; and lanolin is antiseptic in itself.

As a means of introducing this preparation I have been using an application as suggested by a Dr. Smith, of England, a year or so ago. It is simply a hard-rubber rectal ointment-applicator, modified by having a catheter-end, four or five inches long, which may be inserted into the urethra to any depth desired; the screw-piston serving to express the ointment at the proper time.

Boric acid is doubtless an excellent remedy, it fulfils two essential requirements: it is antiseptic and at the same time unirritating. I have been in the habit of using resorcin, three to four per cent., to which, in the later and subacute stages, I add some antiseptic astringent, such as the sulpho-carbolate of zinc.

With this plan as a basis, and the addition of hygienic and rational adjuvants, results have been more encouraging than with any other method with which I am conversant.

1006 Olive Street.

[1] Finger: Die Blennorrhöe der Sexualorgane, 1888.

# Clinical Department.

## INTESTINAL OBSTRUCTION OVERCOME BY THE PASSAGE OF A RECTAL TUBE.

By PHILIP F. O'HANLON, M.D.,

NEW YORK.

Having read in The Medical Record of August 3d an article by Dr. DeWitt C. Rodenhurst, on intestinal obstruction, I would like to relate my experience. During my service as House Surgeon of Gouverneur Hospital a man about fifty years of age was admitted to the ward. His abdomen was distended and filled with gas, he was suffering most intense agony; had had no movement from his bowels for a week, was vomiting, and was unable to sleep owing to pain. Intussusception was diagnosed, and enemas of soap water and turpentine were given, the injection being repeated five or six times with no result. A gas stove was on the table, to which was attached an ordinary rubber tube of about the diameter of the little finger. I cut off thirty-six inches of this tube, vaselined it well, put the nozzle of a syringe at the end of the tube, and passed the other end into the man's rectum, distended the rectum with water, and screwed the tube toward the sigmoid flexure. But the tube would not advance, and then I inserted one finger, then two, and gradually distended the anus until I got my right hand within the rectum, grasping the tube with my fingers, and after a screwing motion had been continued for a few minutes suddenly the tube advanced and made onward movement until thirty inches had passed. I was startled by one of the staff stating that I had probably perforated the gut and gone into the peritoneal cavity; at the same time I felt that so long as I had gone so far I might as well finish what I intended doing, namely, to overcome the intussusception. I pumped about

four quarts of water through the tube, when suddenly a puff of gas escaped per rectum, and the man's abdomen began to sink. With a cry of joy the poor fellow kissed my hand and manifested his gratitude in other ways. What happened in this case was this: The smaller intestine had been pushed out of the larger one by the distention of the water that had passed through the tube, thus allowing the escape of the small intestine from the large. The tube was felt without any trouble in the ascending and transverse portions of the colon, the man being thin and having little fat on his abdomen. I did this in three cases in the hospital, two of which were successful; the third case was diagnosed intussusception, and failing, the visiting surgeon was notified, and after a careful examination it was decided that laparotomy was the patient's only chance. The operation was performed by Dr. H. M. Silver, and it was found that adhesive peritonitis was the cause of his trouble.

I write this because it has been said that the tube could not be passed so far along the intestine, and I trust that the report of these cases may be of use to those who doubt the value of the method.

## SATYRIASIS CAUSED BY VARICOCELE, AND CEASING AFTER SUCCESSFUL OPERATION FOR THE LATTER.

By GEORGE T. WELCH, M.D.,

KEYPORT, N. J.

In August, 1888, a young German, of a slender but lithe and vigorous physique, consulted me in regard to an aggravated eruption of tinea versicolor, from which I found he suffered more agonies of mind than of body, the unpardonable error of diagnosing the disease as syphilis having been committed by his previous medical advisers. A cure speedily followed upon the use of proper epidermicides, and I so won the patient's confidence that he, with much embarrassment, proceeded to divulge a far more serious difficulty, and ventured to hope for relief from this also. He informed me that he had had for four years an inordinate passion for the opposite sex, which had so tormented him that he had felt it incumbent upon him to keep away from the presence of women, lest he should commit some flagrant outrage, or at least betray his emotions in some unguarded moment.

He had lascivious dreams, and like Rousseau he had reveries in which the women of his acquaintance accorded him the last honor of exalted pleasures. The rustle of a silken dress would stir fancies in him too lawless for expression, and he would doubtless have given way to an erotic mania had he not had good sense at the bottom of these mischievous desires. He had reasoned with himself, and had come to the conclusion that some disease prompted the morbid symptoms, and he had attributed them to an enlargement of the left testicle, which he did not understand.

He told me he had used cold douches to the genitalia, had made frequent use of Turkish baths, light diet, abstinence from liquors, avoidance of the sex and of stimulating literature and pictures, but all to no purpose, and shame had prevented him from consulting a physician in regard to the matter. So cool an analysis of his own symptoms precluded any suspicion of mental disease, and there was no reason to suspect any phase of epilepsy.

I at once proceeded to examine the condition of the testicle referred to, and found an enormous varicocele—the largest I had ever seen. The enlarged veins hung below the testicle, and I was informed that under the stimulus of sexual desire the veins became even more extended than I then saw them. Without promising relief from his satyriasis, though I encouraged him to hope for it, I advised an operation for the cure of the varicocele, at once, to which he willingly consented.

Having made his arrangements to retire from business for a fortnight, I operated on him the following day. I separated the varicose veins from the vas deferens while the patient was standing, and the veins, therefore, more completely distended; but warned by Mr. Jacobson's disastrous experience in a similar case, where gangrene followed upon ligating too many of the veins, I left a small number of them undisturbed. The scrotum was then transfixed behind the separated veins with a scalpel, and the veins ligated with carbolized catgut ligature in two places, an eighth of an inch apart. The ends of the ligatures were cut off, and the latter were thrust back into the scrotum, a dressing of carbolized cotton completing the operation. A good recovery was made, and I am pleased to say the excessive sexual desire diminished from that time on, to the intense satisfaction of the patient. He resumed the social life he had longed for, without any return of the morbid symptoms.

## A CASE OF BLOODLESS LABOR.

Dr. B. J. Wetherby, of Arlington, Kan., writes: "On July 17, 1889, I was called to confine Mrs. C——, aged thirty. She had previously given birth to four healthy children, the births being unattended by anything out of the usual order. After about two hours of waiting and a little assistance a healthy, well-nourished male child was born. As soon as the cord ceased to pulsate I put two ligatures around it, as I always do, and cut the cord between them. In about ten minutes uterine contractions came on and the placenta was expelled without any assistance on my part. As I transferred the after-birth to the vessel, I was surprised to find that my hand did not have a single blood-stain upon it; and upon further investigation I found that not a single drop of blood had been lost except that resulting from cutting the cord. The patient stated that after her previous confinements she had suffered terribly from after-pains, but I hazarded the assurance that in this case she would suffer little, if any. When I saw her next day she told me she had had no after-pains at all, and I found that no clots had been expelled. The woman made a rapid recovery. Several physicians have made the statement that an entirely bloodless labor is impossible, therefore I report this case.

"There is some difference of opinion as to the proper management of the third stage of labor, some advising active expression of the placenta, while others advise the expectant plan. The point of difference is principally in regard to the method of separation of the placenta, the advocates of the Credé method of expressing the after-birth holding that separation begins at the edges, while the opponents of the method claim that separation is effected by the formation of a retro-placental hæmatoma. If the latter theory is correct how was the placenta separated in the case I have just recorded, when there was no hæmatoma, retro-, intra-, or extra-placental? I have no theory to offer, but simply state the case as I saw it. The Credé method, properly performed, is good enough for me."

A Cautious Britisher.—In a paper on the change of gray hair to black by the use of jaborandi, published in the *Therapeutic Gazette*, Dr. Prentiss relates that a previous case reported by him had been commented upon by one of the New York dailies, the result of which was an avalanche of letters from people asking for information and offering money for the recipe. One man in England wrote, enclosing the half of a two-dollar bill, with the information that the other half would be sent at once upon receipt of the formula.

Tincture of Iodine Internally for Warts.—Dr. Imossi, writing in the *Bulletin Général de Thérapeutique* of June 15, 1889, recommends the employment internally of tincture of iodine in the treatment of warts. He has obtained excellent results in a number of cases with this remedy, in doses of ten drops twice a day for adults.

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## PREVENTIVE INOCULATION AND THE THEORY OF ITS ACTION.

OF all the questions that have been brought to the notice of the medical world in recent years, none has been the subject of more acrimonious discussion than that of Pasteur's alleged preventive inoculation for rabies. Yet we venture to say that many, even of those who have taken part in the discussion, have but a very hazy conception of the theory upon which Pasteur bases his methods. This theory was set forth in a very able and interesting manner by M. Roux, in the Croonian Lecture recently delivered before the Royal Society.

Preventive inoculations were first used, the speaker said, for variola, but they had now been superseded by vaccination. A more satisfactory method of preventive inoculation had been furnished by the discovery of the power of artificially attenuating (weakening) virus.

It was in studying "chicken cholera" that Pasteur first obtained cultures of an attenuated virus. The gradual diminution in the virulence of the virus was found to be due to the action of the oxygen of the air. If, instead of making the cultivation in a bottle, where the renewal of the air was possible, we were to make it in a closed tube containing only a small quantity of air, the microbe would soon consume all the oxygen, and would cease to grow, for oxygen was a necessity of its development. In a tube deprived of air it could not grow, but it remained alive for a long time, as one could satisfy one's self by sowing in aërated *bouillon* the small culture formed in the sealed tubes. After being thus preserved for a year it gave cultures which were as active as a recent culture from the blood of a fowl just dead of chicken cholera. The diminution in virulence which took place in cultures exposed to the air was therefore dependent on that exposure, and not on the length of time the microbe was kept.

In applying this method to the virus of splenic fever a difficulty arose. It was found that the spores formed during the first hours of culture were able to resist the action of the oxygen of the air. To prevent the bacilli from producing spores, the virus must be cultivated at a temperature, not of 35° C., as in the case of the virus of chicken cholera, but at one of 42° to 43° C. Under these conditions the bacilli developed, producing the filaments, but no spores. By drawing off every day a little of the culture from the bottle at 42° and placing it in *bouillon* at 85° C., we had a series of cultures of graduated virulence, and furnished with spores capable of fixing each of these special degrees of intensity. The preventive vaccination of sheep had reduced the mortality from splenic fever to one per cent. If in nature we came across one of those attenuated bacteria we had learned to prepare, and which were so harmless as to be incapable of killing even a mouse, it would clearly be impossible for us to recognize in it a descendant of the terrible *bacillus anthracis*. To do so it would be necessary to have watched it in its stages of gradual attenuation. But it was possible (unless the process of attenuation had been carried too far) to make the bacillus reascend the steps of virulence. It was not capable of killing even a mouse. But let us inoculate with it a very young mouse, only one day old. This young mouse would be much more sensitive than an adult mouse, and would die in a few days. In developing in this young mouse the bacillus would recover a portion of its old fitness for life in living surroundings. The blood of this first mouse introduced into that of one a little older, would cause its death, and thus proceeding step by step from the youngest mouse to the oldest, it would gain power to kill first old mice, then guinea-pigs, rabbits, sheep, and, last of all, oxen.

M. Roux then referred to *rouget*, and to an extraordinary point in connection with it, discovered by MM. Pasteur and Thuillier. By passing the virus through a number of rabbits in succession it could be rendered more potent, but as the strength of the virus increased for the rabbit it was diminished for the pig; so much so that, after a sufficient number of passages of the virus had been made through the rabbit, it had become a vaccine for swine, able to confer upon them exemption from the fatal form of malady. With this example before us the question arose, What would happen with certain human diseases if we made them also pass through a great number of different kinds of animals? Was not this very process taking place in nature, and did it not give fresh support to the idea that the vaccine of small-pox became modified by its passage through the horse and the cow?

The lecturer then proceeded to discuss at some length Pasteur's work in regard to rabies. M. Pasteur, he said, had demonstrated that the true seat of the virus was to be found in the nervous system, and that by inoculating the virus directly into the nervous system the incubation period could be shortened. If inoculation by trephining (with antiseptic precautions) were performed upon a series of rabbits from the spinal cord or medulla of an animal just dead, and this process were continued with successive animals, we found that the incubation period, at first fourteen to eighteen days, gradually diminished. It became shorter and shorter, until it finally went down to six days. At that point it remained stationary, and the rabic virus was said to be fixed, it having attained its maximum virulence for that animal. The virus was attenuated by gradually drying in pure warm air (at 25° C.) the spinal cord from a rabbit which had served in a passage series of inoculations, and therefore contained "fixed" virus. At the end of fourteen days this spinal cord was absolutely innocuous, after having passed down the scale of gradually diminishing activity during the preceding days. Having now obtained our material containing the attenuated virus, if we each day injected subcutan-

eously into a dog a portion of the attenuated cord, crushed in water, beginning with the harmless fourteen days cord, then going on day by day till we reached the cord at zero, or, in other words, spinal cord unattenuated, spinal cord which was deadly, the dog thus inoculated would not die. He would even remain well if the most active rabic virus were inoculated into his brain, though we knew that otherwise intra-cranial inoculation produced rabies without fail. The exempt condition had been obtained in one fortnight. As rabies usually remained latent in a dog which had been bitten for a period generally exceeding one month, it was thought that it might be possible to profit by the long exemption period to give exemption from the malady before its manifestation. Experiments on dogs showed that this could be done, and since then the method had been applied to man. The circumstances under which the latter step had been taken by M. Pasteur were now a matter of history.

M. Roux then proceeded to speak of the poisonous products manufactured by microbes, and the way in which they could be utilized for protective vaccinations. By introducing, little by little, into the bodies of animals those chemical substances produced by pathogenic microbes (*e.g.*, those of acute septicæmia), in such a manner as to avoid causing speedy poisoning, but so as to gradually accustom the animal to their presence, it became refractory not only to toxic doses which would have originally caused death, but also even to the microbe itself. Besides the chemical, we had also the physiological question to deal with, as shown by the fact that, although the rabbit was by nature refractory to "quarter evil," yet, inoculated with the virus after having first had a lesion produced in its tissues, an anthrax tumor would soon appear, and the animal might succumb. When an active virus was injected into a refractory animal the microbes were soon destroyed—chiefly by the phagocytes. Any satisfactory explanation of the problem of immunity should comprise these facts, and be based upon the relative importance of the action of the chemical products and the resistance of the tissues. The lecturer remarked that the best explanation was to consider immunity as the result of the habituation of the cells to the poisons secreted by the microbes.

## THE DIETETIC TREATMENT OF GOUT.

An interesting confirmation of the views expressed for a long time by certain American physicians, notably Dr. Wm. H. Draper, regarding the dietetic treatment of gout, may be found in a paper recently read before the Congress of Internal Medicine by Professor Pfeiffer.

No particularly new views are entertained on the subject of the pathology of this affection, and, indeed, nearly all views are still to be reduced eventually to a question of uric acid.

"The first indication," he says, "in treatment (*Medical Press and Circular*) should be the excretion of a proper amount of urea and uric acid in the urine, since the retention of this product soon produces a low cachectic condition of the system. After this, the administration of a salt that will convert the insoluble substance into a soluble substance allowing of rapid elimination, soon relieves the pain and reduces the swelling. The first important step is to correct the diet. This should consist largely of albuminous matter, as beef, eggs, etc., as well as fat and green vegetables; but fermented drinks, starch, and sugar should be forbidden. The use of a meat diet is very important, as the retention of the urea and uric acid quickly produces a cachectic condition of the system which must be early combated in the treatment; but the meat diet does more than supply this necessity, for the salts of the meat, when taken into the system, have a solvent influence that speedily raises the elimination of urea and uric acid to even more than the normal quantity. The same may be said of all proteid substances, and more particularly of eggs. Sour milk and cheese should be avoided, but fruit and salads are beneficial, as they alkalize the alimentary canal; while wine and beer have the opposite effect, and should be strictly prohibited.

"The medicinal treatment should consist in the administration of some alkaline salt, and the carbon salts seem to be the best, though phosphoric acid and boracic acid have, in some cases, proved beneficial. Hydrochloric acid and sulphuric acid are objectionable. All alkaline and mineral waters should be given in small doses to begin with, and gradually increased."

Certain German mineral waters and baths are, of course, very highly recommended.

The formal advocacy of a meat diet, however, shows that physicians generally are breaking away from the canonical teachings of the English school.

It is not to be forgotten, however, that there are many cases of gout, especially in very plethoric persons, in which meat is not tolerated.

## POST-MORTEM SWEATING.

This curious phenomenon is said to have been observed occasionally in cases of sudden death in acute disease, and is supposed to be due to the continuance of capillary circulation for a brief period. But a case related by Dr. J. A. Cones in *The Lancet* of May 25, 1889, appears to be unique in the length of time that had elapsed after death before the transudation through the skin occurred.

The patient had albuminuria, without dropsy or ascites, and ten days before his death was seized with uræmic coma, in which condition he remained to the end. During the last forty-eight hours of his life, and even at the moment of his death, he was perspiring freely. The body was washed and laid out on a bed, and four hours later was placed in the bier. At this time nothing unusual was noticed. But the following morning the sheets and pillow on which the body lay were saturated with moisture, and the skin was cold and wet. This exudation continued for about eight hours, and then ceased.

The theory of a continued capillary circulation will not suffice in explanation of this case, for there was no sweating immediately after death, and it did not begin until several hours later. The author suggests that it was the result of compression of the sweat-glands and surrounding lymph-spaces taking place when rigor mortis began. The man had been sweating profusely at the time of his death, so that it would be not inapt to compare the surface of his body to a large sponge which yielded its fluid upon being squeezed. That the man was actually dead was shown by the fact of post-mortem discoloration, which was well marked when the body was first seen on the morning after death.

# News of the Week.

ANOTHER IMPOSTOR.—A correspondent sends the following note of warning concerning a man who has already victimized a number of charitably disposed persons in this city: "A physician holding a diploma from Bellevue Hospital Medical College, and bearing a paper signed by a number of persons alleged to be physicians in Johnstown, Pa., stating that he is a victim of the great disaster, has been applying to graduates and professors of Bellevue College, and probably to other physicians, for aid to establish himself in Troy, N. Y. He gives as reference a gentleman of Troy doing business as a brewer. A note just received from the gentleman denies all knowledge of the man. Evidently, we have to do with a fraud. Mendacity combined with mendicity is doubly criminal, because besides the direct wrong it poisons the fountains of sweet charity."

THE FRENCH SURGICAL CONGRESS.—The fourth session of the French Congress of Surgery will be held in Paris, in the grand amphitheatre of the Ecole de Médecine, on October 14 to 20, 1889. The President of the Congress is Baron Larrey. The following are the subjects announced for discussion: 1. The immediate and remote results of operations for local tubercular troubles. 2. The surgical treatment of peritonitis. 3. The treatment of aneurisms of the extremities. The remaining sessions of the Congress will be occupied with the reading of voluntary communications and the presentation of patients and apparatus. All communications relating to the scientific business of the Congress should be addressed to the Secretary General, M. Pozzi, No. 10 Place Vendôme, Paris.

DR. MARY E. HANCHETT died recently in Chittenango, N. Y. She was graduated from the Albany Medical College in 1848, and was one of the first women to receive a degree of doctor of medicine in this country.

CONVICTION OF AN INSURANCE EXAMINER.—A physician in Belfast was recently sentenced to six months imprisonment for having passed as sound an applicant for insurance who was suffering at the time with well-marked cardiac disease and dropsy, and who died shortly afterward.

INJECTIONS OF TESTICULAR JUICE.—The Brown-Séquard trouble has struck America, and seems to have at once attained the proportions of an epidemic. The daily papers are filled with reports of testicular injections practised all over the country, and on old men in all stages of decrepitude. The results in each case, if the despatches are to be believed, are little short of miraculous. One of our German exchanges, in commenting upon the rejuvenator, remarks that it furnishes additional proof of the wisdom of retiring professors at the age of seventy. Brown-Séquard is seventy-two years of age.

"THE WESTERN MEDICAL AND SURGICAL REPORTER" is the name of the latest born of medical journals in this great country. The object of its creation is stated to be to give the Western doctor and the Western medical school a show. We, of the effete East, greet our Western brother and wish him every success in his laudable undertaking.

A SOCIETY OF HYGIENE AND PUBLIC HEALTH has recently been founded in Rome.

DR. N. SENN has been proposed for honorary membership in the National Academy of Medicine of Mexico.

THE NEW JERSEY STATE VETERINARY MEDICAL ASSOCIATION held its annual meeting in Hoboken on August 9th. Secretary of Agriculture Rusk, Mr. Philip, Chief Clerk of the United States Bureau of Animal Industry, and Franklyn Deyo, Secretary of the State Board of Agriculture, were elected honorary members.

THE AMERICAN PUBLIC HEALTH ASSOCIATION will hold its seventeenth annual meeting in Brooklyn, on October 22 to 25, 1889. The programme is a very extensive one, and includes discussions on yellow fever, diphtheria, tuberculosis, compulsory vaccination, prison, railway, and steamship sanitation, methods of scientific cooking, etc.

MR. CLARK BELL, President of the Medico-Legal Society of this city, was entertained at a reception by the President and Council of the London Society for the Study of Inebriety on July 26th, in the rooms of the Medical Society of London. Several resolutions were passed and speeches made complimentary to the Medico-Legal Society and to its President.

DR. PAUL MEYER, Privatdocent of Strasburg, and for a number of years assistant to v. Recklinghausen and Kussmaul, died recently of endocarditis, at the age of thirty-six years. He was known to many Americans, who will be pained to learn of his early decease.

A COMPLETE SET OF THE TRANSACTIONS OF THE CONGRESS OF GERMAN NATURALISTS AND PHYSICIANS, said to be the only copy in existence, came near being captured by America. It was offered for sale, and was on the point of being sold to an American, when a member of the Society stepped in and purchased it at a high price.

DR. OSCAR C. DE WOLF has resigned his position as Health Commissioner of Chicago, after a continuous service of thirteen years. Dr. Wickersham has been appointed his successor.

THE AMERICAN ACADEMY OF MEDICINE will hold its next annual meeting in Chicago, Ill., on September 17 and 18, 1889.

THE MEDICAL SOCIETY OF VIRGINIA will hold its twentieth annual meeting on September 3 and 4, 1889, at Roanoke, under the presidency of Dr. E. W. Rowe.

SUICIDE OF PROFESSOR LORETA.—Professor Pietro Loreta, of Bologna, by whose name the operations of resection of the liver and digital divulsion of the orifices of the stomach are known, killed himself with a razor on July 19th. He had lately shown symptoms of melancholia, and had several times suggested to his friends the desirability of putting an end to the persecutions to which he believed he was exposed, by taking his own life. Loreta was born in Ravenna, and was fifty-eight years of age at the time of his death. Last spring two tablets were erected in Bologna commemorating the "Loreta operations," and the distinguished surgeon was the recipient of many honors, at the time, from societies in Europe and America. Until his mind became diseased he was always of a happy and cheerful disposition.

THE DECADENCE OF THE CIGARETTE.—The falling off in the habit of cigarette smoking, at least in the street and other public places, is becoming very noticeable, and dealers also say that there has been of late a very great decrease in the sale of cigarettes.

A DEATH AFTER THE ADMINISTRATION OF SULPHONAL.—A case is reported by Dr. R. R. Petitt, in the *Medical News*, in which death followed the exhibition of thirty grains of sulphonal. The patient was a woman aged twenty-eight, and the drug was given in two doses of fifteen grains each, with an interval of an hour and a quarter between them.

A REGISTRATION LAW IN NORTH CAROLINA.—The law relating to medical practice, recently passed in North Carolina, requires that every person entitled to practise medicine in that State shall register in the office of the Clerk of the Superior Court of his county, before January 1, 1890. The first license under the new law was issued to Dr. Thomas F. Wood, editor of the North Carolina *Medical Journal*, of Wilmington.

THE AMERICAN SOCIETY OF MICROSCOPISTS will hold its thirteenth annual meeting in Buffalo, on August 20th.

THE MEDICAL JOURNAL TRUST.—This is the way the funny rumor about a medical journal trust has affected one of our esteemed contemporaries. Under the caption of "An Infamous Scheme," he writes: "On the eve of going to press we are pained at a current report purporting that a general move is on foot to form a mammoth 'Medical Journal Trust;' whereby Meritorious Journals may be crushed out of existence by a combination of prominent proprietary and patent medicine houses. This combination is said to be known as the 'American Medical Press Association.' This move, if not thwarted at once, will aim directly at the complete annihilation of every legitimate medical journal in the United States; their places being filled by trade and patent medicine journals. Let the physicians of this country keep a critical eye on this hydra-headed monster. The plan for destruction seems to be to induce all advertisers to gradually withdraw their patronage from the reliable medical journals, and place them in the hands of trade and patent medicine journals; thereby causing good journals to die out for want of support. Unless this infamous trick is exposed, and every physician does his duty, patent medicine humbugs will drive to the wall the physicians of the whole country. Let the physicians of the Southwest sit down on this dastardly scheme in no uncertain manner. Let the wolf in sheep's clothing be jugulated before it envelops with its slimy embrace every legitimate interest of scientific medicine." We think the writer is somewhat needlessly alarmed, for this alleged trust is, we opine, largely a creature of the imagination.

THE CONDITION OF THE MEDICAL PROFESSION IN GERMANY.—In an address to a German medical society Dr. Hüllmann, of Halle, discusses the ever-interesting theme of the state of the profession and the outlook for the future, which in Germany is no more promising than it appears to be in this country. The main causes accounting for the unsatisfactory position in which medical men find themselves are, he considers: (1) The increase in the number of practitioners as compared with that of the population; (2) the low remuneration offered by clubs, and the competition for appointments which bring in but little more than the pay of an artisan; and (3) the continued development of specialism. He goes on to show that there has been a steady increase in the proportion of practitioners to population—from 3.33 for each 10,000 in 1883 to 3.77 for each 10,000 in 1888. The remedies he suggests are to limit the number of men entering the profession, and also the number of specialists. He remarks that at present the course for the medical student is shorter than that for students of any other learned profession, for only four years are obligatory; while a lawyer has, in addition to his three and a half years' study at the university, to spend an equal period in learning the practical duties of his profession; a pastor has, after his university general studies, to spend two or three years as "Candidat;" and a school-master must after his university course work for a probationary year before he can obtain the grade of assistant master. Considering the immense amount of scientific knowledge that a medical man ought to acquire, five years would, in his opinion, seem to be the very least that ought to be enjoined, and if a knowledge of mental diseases and hygiene is to be attained, a longer period will be necessary.

ALBOLENE.—In an article in THE MEDICAL RECORD of July 6th, page 23, referring to a paper on "Menthol in Laryngeal Phthisis," by Dr. Charles H. Knight, it should read that the drug was dissolved in fluid albolene, not "fluid cosmolene," as printed.

## Reviews and Notices of Books.

PHTHISIE LARYNGÉE. Par le DR. A. GOUGENHEIM, Médecin de l'Hôpital Lariboisière et de la Clinique Laryngologique de l'Hôpital Lariboisière, et PAUL TISSIER, Interne des Hôpitaux de Paris. Paris: G. Masson. 1889.

THIS work on laryngeal phthisis fills a gap in medical literature, for such an exhaustive treatise on the subject has not appeared in many years. The author's reputation is a guarantee in itself of the reliability of the work. The book is illustrated with woodcuts, and several chromolithographic plates.

DU LAVAGE DE LA VESSIE SANS SONDE. Par le DOCTEUR J.-M. LAVAUX, Ancien Interne des Hôpitaux de Paris, Membre de la Société de Médecine Pratique. Paris: G. Steinheil. 1888.

IN this monograph Dr. Lavaux describes in detail his method of washing out the bladder without the use of a sound, indicates its uses, and especially its value in the treatment of cystitis accompanied with much pain. A number of cases are reported to show the range of applicability of the method.

GUIDE TO THERAPEUTICS AND MATERIA MEDICA. By ROBERT FARQUHARSON, M.P., M.D. Edin. Fourth American Edition. By FRANK WOODBURY, A.M., M.D. 12mo, pp. 598. Philadelphia: Lea Brothers & Co. 1889.

THIS work is probably the most complete and comprehensive of its kind that can be found. To the practical therapeutist it is almost invaluable, giving as it does in the smallest possible compass the latest and best means in the shape of drugs for the treatment of all classes of disease. The talented American editor has made some very important additions which particularly adapt the handbook to the wants of the American practitioner. As he aptly styles it, it is "a miniature dispensatory."

ATLAS OF VENEREAL AND SKIN DISEASES. By PRINCE A. MORROW, A.M., M.D., Clinical Professor of Venereal Diseases; formerly Clinical Lecturer on Dermatology in the University of the City of New York; Surgeon to Charity Hospital, etc. New York: William Wood & Co. 1889.

THE "Atlas of Venereal and Skin Diseases," by Dr. Prince A. Morrow, of which notices have appeared from time to time, is now complete, and forms the most valuable and comprehensive addition to the literature of this branch of medicine that has yet appeared in any language. The illustrations are marvels of artistic excellence and clinical accuracy, and altogether form a collection of typical skin lesions the value of which to the student and practitioner can scarcely be estimated. The study of skin diseases by mere text-books has always proved uninteresting, simply for the reason that, no matter how accurate the word-description may be, there is no lasting impression made upon the mind of the learner, but rather a confused notion of form, color, and general characters of an eruption. The picture of these diseases can never be complete until it is actually presented to the eye as it appears upon the patient, with form, color, general arrangement, situation, and distribution, such as can be seen in our large cliniques in skin diseases. Next in order is the faithful and artistic presentation in plates, such as are contained in the plates which make up this truly remarkable collection. The illustrations of the different forms of syphilis, extending as they do over the whole range of this interesting and common disease, gives a range to the study which is almost surprising. The typical forms of other skin lesions are also admirable in their way, and leave nothing to be desired in the presentation of the salient points of study for the rarer as well as simpler forms.

Dr. Morrow, the painstaking author, has placed every student and practitioner under obligations to him by the admirably practical manner in which he has described the different lesions and brought out their clinical significance. In fact, it would be difficult to understand how the work could be improved or be made more valuable to that large class of students and practitioners for which it is intended.

AN ELEMENTARY TREATISE ON HUMAN ANATOMY. By JOSEPH LEIDY, M.D., LL.D., Professor of Human and Comparative Anatomy and Zoology in the University of Pennsylvania, etc. Second edition. 8vo, pp. 933. Philadelphia: J. B. Lippincott Co. 1889.

THIS work, after having been published many years ago, comes to us in its second edition. It may be said, as it at present stands, to be anatomy simplified, and as far as possible, made interesting. The author has very successfully endeavored to make the study of anatomy comparatively easy by the presentation of an easy nomenclature and the avoidance of unnecessary names. The general plan is schematic and dwells largely upon principles, avoiding, as much as is consistent with scientific accuracy, the use of more than one common name for each organ.

Many of the illustrations are original, and present in a new aspect many an old picture of anatomical relations. It cannot be said that this book is anything more than it pretends to be, and yet it is everything that can be expected in a broad, elaborate, and comprehensive elementary anatomy.

HANDBOOK FOR THE HOSPITAL CORPS OF THE UNITED STATES ARMY AND STATE MILITARY FORCES. By CHARLES SMART, Major and Surgeon, United States Army. Approved by the Surgeon-General of the Army. New York: William Wood & Co. 1889.

THE title of this book gives to the civilian but a faint idea of its scope and utility. It treats not only of the post hospital and of the duties of the hospital authorities, but of active service in the field, of the elements of anatomy and physiology, of nursing, of the preparation of food, of first aid to the injured, minor surgery, management of cases of poisoning, disinfection, hospital and camp hygiene, etc. Indeed, it would be difficult to find any subject connected with the duties of an army surgeon or hospital steward which is not touched upon. Physicians and nurses in civil life will find the book as useful to them as it is to those for whose special benefit it was written. The illustrations are numerous and helpful.

IMMUNITY THROUGH LEUCOMAÏNES. By EUSEBIO GÜELL BACIGALUPI. Translated from the second French edition by R. F. Rafael, M.D. New York: J. H. Vail & Co. 1889.

THIS little work, as its title implies, is written in the effort to prove that the immunity against disease acquired through preventive inoculation is effected by means of leucomaïnes. By leucomaïnes the author understands the products of elimination which are the result of the vital functions of the specific micro-organisms. The immunity against any disease conferred by a previous attack is not due, he holds, to the fact that the organism has been deprived of substances necessary to the life of the microbe, but rather to the presence of the leucomaïnes which have been eliminated by the microbes during their previous visit. The author appears to assume that preventive inoculations in rabies, cholera, etc., are efficacious, and upon this assumption he bases in great part his argument. Consequently his theory appeals only to those who are already convinced of the value of these inoculations. The line of argument is well reasoned out, and the author's views are ingenious, if not wholly convincing.

COLLEGE BOTANY: INCLUDING ORGANOGRAPHY, VEGETABLE PHYSIOLOGY, AND VEGETABLE TAXONOMY. By EDSON S. BASTIN, A.M., F.R.M.S., Professor of Botany, Materia Medica, and Microscopy in the Chicago College of Pharmacy. 8vo, pp. 451. Chicago: G. P. Engelhard & Co. 1889.

THIS is a revised and enlarged edition of the well-known Elements of Botany of the author. He has succeeded very well in presenting his subject in an attractive and interesting way to the ordinary college student, a thing very much desired in these days. There is evidence throughout the work of a desire to teach the really practical points of the science, such as any student of pharmacy or materia medica may require as an introduction to more elaborate and technical researches. The illustrations are very many and very good. Altogether, the work will tend to popularize the study of a very interesting and useful science.

AMERICAN ARMAMENTARIUM CHIRURGICUM. 4to, pp. 846. New York: George Tiemann & Co.

CATALOGUES, as a rule, are not interesting, but this forms such a notable exception that it deserves particular mention. The publishers, so long known among the leading instrument makers of the country, have compiled a mine of information as to the almost countless number of instruments used in surgical operations, and have placed the profession under obligations for much that cannot be found in books, but still that should be known. No surgeon need now inquire for the name or uses of any surgical appliance within the range of his art, for here, in this formidably sized volume, with hundreds of beautiful illustrations and text descriptions, he has at hand everything he may need. It is an addendum to his works on surgery, and is quite indispensable as a book of reference whenever any new instrument or apparatus may be required for surgical work.

MALADIES DE LA LANGUE. Par le DR. HENRY T. BUTLIN, traduit de l'Anglais par le DR. DOUGLAS AIGRE, Ancien Interne des Hôpitaux de Paris. 8vo, pp. 424. Paris: Aux Bureaux du Progrès Médical. 1889.

THIS is an admirable translation of Butlin's work on Diseases of the Tongue, a notice of the original edition of which has already appeared in THE RECORD.

ŒUVRES COMPLÈTES de J. M. CHARCOT. MALADIES DES POUMONS ET DU SYSTÈME VASCULAIRE. Tome V. Aux Bureaux du Progrès Médical; E. Lecrosnier et Babé. Pp. 654. 1888.

THIS volume is a collection of the articles and lectures of Charcot upon diseases of the lungs, heart, and blood-vessels. Among the contributions are some that were delivered thirty years ago, and none are of more recent date than 1877. The volume has in a large measure, therefore, a personal and historical interest. But it also contains many clinical and pathological data of permanent value.

The work is ably edited by M. Bourneville, and it is illustrated with woodcuts and lithographic plates.

WOOD'S MEDICAL AND SURGICAL MONOGRAPHS. Consisting of Original Treatises and of Complete Reproductions in English of Books and Monographs Selected from the Latest Literature of Foreign Countries, with all illustrations, etc. Vols. I. and II. New York: William Wood & Co. 1889.

THE first volume of these monographs is completed with the March number. In a previous notice we referred to the nature of this publication, and to the contents of the first number. The two succeeding numbers answer fully the expectations created by the appearance of the first, and together they make a volume in which every practitioner may find something to interest and instruct him. The first number contains "The Pedigree of Disease," by Jonathan Hutchinson, F.R.S., a work which we have before noticed in these columns. The subject is one that is of the deepest interest to every medical man, and it is presented in a way that cannot fail to rivet the attention of the reader, and furnish him with much food for thought and earnest reflection. The second monograph is on some of the "Common Diseases of the Skin," by Robert M Simon, M.D., of London. It treats of the ordinary cutaneous affections which the general practitioner will be likely to meet in his daily practice, and is in every way a thoroughly practical and useful work. The number concludes with fourteen "Clinical Lectures on the Varieties and the Treatment of Bronchitis," by Dr. Ferrand, of Paris. The author has endeavored to classify the various forms of bronchitis, giving in detail the symptoms and distinguishing characteristics of each and their appropriate treatment. The second number contains an essay on "Gonorrhœal Infection in Women," by William Japp Sinclair, M.A., M.D., "A Critical Study of the Clinical Value of Albuminuria in Bright's Disease," by Dr. Pierre Jeanton, of Paris, and a monograph on "Giddiness," by Thomas Grainger Stewart, M.D., F.R.C.P.E., F.R.S.E. The last-named work is part of a series of lectures on important symptoms, in which the author defines the various symptoms, studies the different lesions of which they may be an indication, and traces the connection between the symptom and the underlying condition causing it. The last number of this volume contains five most valuable articles, two from the pen of Dr. H. von Ziemssen, the first on "Neurasthenia and its Treatment," the second on "Antipyresis and Antipyretic Methods of Treatment." The third article is an exhaustive treatise on "The Tongue as an Indication of Disease," by Dr. W. H. Dickinson. It is illustrated by woodcuts and colored plates showing the varying appearances of the tongue in health and in disease. "The Treatment of Cystic Goitre" is the subject of an essay by T. M. Hovell, F.R.C.S, and the concluding monograph of the series is a brief description of the new remedies introduced into medical practice during the past decade, by Dr. C. Cauquil, of Paris. This number also contains the title-page, table of contents, and index for the entire volume. This series of monographs is a new departure in medical literature, and is one that is deserving of success, for it puts in the hands of the general reader a mass of excellent material that would otherwise be beyond his reach. The editor has displayed good judgment in his selection of articles, for even in this first volume there is hardly a practitioner, be he a specialist or in general practice, but will find one or more subje ts of interest to him. The books are of a handy size, and the type, paper, and printing are so good that it becomes a pleasure to read the clear pages, apart from the interest aroused by the subject-matter of the different essays. Altogether, the subscriber to this series will find little cause to regret his expenditure, and much cause for congratulation in having acquired at so small an outlay so large an amount of instructive literature.

The second volume of this series of monographs is fully up to the first in point of interest and utility to the general practitioner. The first number of this volume, that for April, contains an essay on "Diabetes and its Connections with Heart Disease," by Jacques Mayer, M.D., of Carlsbad, and one on "Blenorrhœa of the Sexual Organs and its Complications," by Dr. Ernest Finger, of Vienna. The May number contains a paper by Sir Henry Thompson, on "The Preventive Treatment of Calculous Disease and the Use of Solvent Remedies," and an excellent article on "Sprains: their Consequences and Treatment," by C. W. Mansell Moullin, M.D., of London. The third number should be called a treatise rather than a monograph, for its entire four hundred and fifty pages are devoted to a translation of Dr. August Schreiber's recent work on "General Orthopedics, including Surgical Operations," the latest, and one of the best orthopedic works published in Germany. This bare enumeration of the titles of these monographs is sufficient to demonstrate the great value of the series, and we can only add that the physician who receives and reads these numbers as they appear, will find himself amply rewarded by his increased knowledge of the nature and therapy of disease obtained thereby.

LECTURES ON BRIGHT'S DISEASE. By ROBERT SAUNDBY, M.D. Edin.; Fellow of the Royal College of Physicians, London; Emeritus Senior President of the Royal Medical Society; Fellow of the Royal Medico-Chirurgical Society; Member of the Pathological Society of London; Physician to the General Hospital; Consulting Physician to the Eye Hospital; and Consulting Physician to the Hospital for Diseases of Women, Birmingham. With fifty illustrations. New York: E. B. Treat. 1889.

IN this little volume Dr. Saundby has presented us with a fairly exhaustive treatise on the subject of Bright's diseases of the kidneys, their pathology, symptoms, and treatment. The work is divided into three sections, the first being devoted to a consideration of general pathology, with chapters on albuminuria, the pathology of dropsy, of polyuria, and of uræmia, the pathological relations of tube-casts, the cardio-vascular changes, and the visual defects associated with renal disease. The second section deals with the clinical examination of the urine, and the third with the etiology, symptoms, prognosis, complications, and treatment of the different affections grouped under the name of Bright's disease. Throughout this section the reports of a number of illustrative cases are introduced in order to render more clear the author's explanations and descriptions. The illustrations in the book are noteworthy for their clearness, and most of them possess the merit of being original.

CLIMATOTERAPIA ESPAÑOLA EN LA TÍSIS PULMONAR. Por el DR. D. AGUSTÍN BASSOLS PRIM. Barcelona: D. Jaime Seix. 1889.

THIS is an interesting guide to the health-resorts of Spain, the Balearic and the Canary Islands, which have been found serviceable in the climatic treatment of pulmonary phthisis. It contains also much valuable information on the climatic treatment of this disease.

A Reference Handbook of the Medical Sciences: Embracing the Entire Range of Scientific and Practical Medicine and Allied Sciences. By Various Writers. Illustrated by Chromo-lithographs and Fine Wood Engravings. Edited by Albert H. Buck, M.D., New York City. Vol. VII. New York: William Wood & Co. 1889.

There is little to be said of this volume beyond what has already been said repeatedly of the volumes that have preceded it. The articles herein contained are those, in alphabetical order, from "Teratology" to "Worms," and each subject is treated in the concise yet complete manner with which those who possess the earlier volumes are already familiar. It is difficult, where there is so much that is excellent, to single out any one subject as especially worthy of mention. Yet we cannot refrain from commending with particular emphasis the articles on Tuberculosis. These include "Tubercular and Syphilitic Disease of the Kidney," by Morris Longstreth; "Tubercular Disease of Glands (Scrofula)," by F. Forchheimer; "Historical Sketch of Tuberculosis," by James F. Whittaker; "Pathology of Tuberculosis," by W. T. Councilman; and "Symptomatology and Treatment of Tuberculosis," by Hermann M. Biggs. "Phthisis Pulmonalis," by E. W. Schauffler, is found in a preceding volume. We venture to say that such a clear and satisfactory presentation of this subject, and one that is so fully up to date, is to be found nowhere else. But this subject is mentioned only because of the peculiar interest that it presents, and we are far from wishing to disparage by implication any of the other articles, which are, almost without exception, above criticism. One more volume will complete this invaluable work.

La Prostitution au Point de Vue de l'Hygiène et de l'Administration, en France et à l'Etranger. Par le Docteur L. Reuss. Paris: Librairie J. B. Baillière et Fils.

This is a work showing a great deal of painstaking research into a disagreeable subject. The facts and figures collected are most interesting, and cannot fail to be of great value to all students of social questions.

A Guide to the Practical Examination of Urine, for the Use of Physicians and Students. By James Tyson, M.D. Sixth edition. Revised and corrected, with a colored plate and wood engravings. Pp. 253. Philadelphia: P. Blakiston, Son & Co. 1888.

The appearance of a sixth edition of this little work attests its popularity and value. It ranks among the best of the numerous small manuals upon the subject of which it treats.

Dictionary of Volapük. By M. W. Wood, M.D., Captain and Assistant Surgeon, United States Army. Volapükatidel e Cif. New York: Charles E. Sprague, The Office Publishing Company; London: Trübner & Co. 1889.

The English-speaking students of Volapük, already quite numerous in this country, will welcome this excellent dictionary, the want of which has been greatly felt. The work is arranged on the plan of Bellows' English-French dictionary, the corresponding portions of the two vocabularies being placed on the same page. The vocabulary is very full, and will supply the needs of ordinary correspondence or essay-writing, but we confess to a disappointment in finding a great paucity of medical terms. It may be said that they would be out of place in a general dictionary, but as Volapük is intended for commercial and scientific uses chiefly, its vocabulary should contain the words suited to such purposes. However, it is necessary to have a stock of common words for use even in writing medical essays, and we doubt not that, if ever the medical world is ready to adopt Volapük as its official language, the present deficiency in medical and scientific terms will then be filled by a wealth of words amply sufficient to describe the most complicated of pathological processes. Anyone who has faith in the future of Volapük, and wishes to learn the language, will find Dr. Wood's dictionary indispensable, for, as we have said, with the exception of scientific terms, it is quite complete, and is so excellently arranged, and gotten up in so handy a form, that the thumbing of the book in search of words becomes almost a pleasure instead of a drudgery.

Recherches Cliniques et Thérapeutiques sur l'Epilepsie, l'Hystérie et l'Idiotie. Compte Rendu du Service des Epileptiques et des Enfants Idiots et Arriérés de Bicêtre pendant l'Année 1887. Par Bourneville, Médecin de Bicêtre, Sollier, Pilliet, Raoult, Internes du Service, et le Dr. Bricon. Vol. VIII., avec 27 figures dans le texte. Pp. 263. Paris: Publications du Progrès Médical; E. Lecrosnier et Babé. 1888.

These annual volumes always contain matter of much scientific interest, bearing especially upon the subjects of epilepsy and idiocy. The present work is no exception. Perhaps the most important contribution is one by Bourneville and Bricon on Procursive Epilepsy, in which this peculiar type of disease is elaborately studied.

The Operative Treatment of Hypertrophied Prostate. By Francis Sedgwick Watson, M.D., Surgeon to Out-patients, Boston City Hospital, etc. Pp. 167, 10x8. Boston: Cupples & Hurd. 1888. New York: J. H. Vail & Co.

The text of this work was read at the Congress of American Physicians and Surgeons, held in Washington last fall. It gives the history of the various remedial procedures which have been devised to relieve prostatic obstructions. It supplies a rational groundwork on which the greatly-increasing frequency of these operations may rest. A full supply of woodcuts of instruments, etc., is inserted, and thirty-four full-page photogravure illustrations are given with descriptive text. An epitome of the author's teaching is as follows: In prostatic obstruction, the radical operation is to be preferred, unless contra-indicated by the patient's exhaustion. Mercier's and Bottini's operations from the meatus are objectionable because applicable only to a limited number of cases, and they do not secure proper after-drainage from the bladder. This narrows the field to the perineal and supra-pubic methods. Anatomically, two-thirds of all cases likely to be encountered are operable through the perineum. Clinically, the perineal operations are the safest. "The inevitable conclusion" (says the author) "from these facts is, it seems to me, this: In a given case, open the membranous urethra, put in your finger, and explore. Twice out of three times the operation can be completed by this route. In the other third of the cases the long perineal distance, or the form of the median enlargement, will render the supra-pubic operation necessary. The work is a most excellent résumé of the subject, and the illustrations are of a high order. It is to be heartily commended.

Skin Diseases of Infancy and Early Life. By C. M Campbell, M.D., Edinburgh. Pp. 202, 6x4. London: Baillière, Tindall & Cox. 1889.

The author has endeavored to avoid alike the prolixity of a standard treatise and the bald incompleteness of a mere epitome. His efforts are welcome, as the honest narration of an extensive clinical experience always is, though it cannot be said that he has given us anything essentially new. It will be to the man commencing practice that the work will be especially valuable. The book possesses the value of being fully up to date, and can be safely recommended to students and recent graduates.

# Society Reports.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, March 27, 1889.*

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

THE special order of the evening was the presentation of specimens illustrating

LESIONS OF THE GASTRO-INTESTINAL CANAL.

DR. JOHN S. ELY presented a specimen showing

PIGMENTATION OF PEYER'S PATCHES,

supposed to be secondary to chronic congestion. Irregular, dark-brown streaks and spots of pigment gave a shaven-beard appearance to the Peyer's patches, and a few spots of pigment in other parts of the intestine seemed to be in the solitary lymph-nodules. The gut was from an Italian, about thirty-five years of age, who had pleurisy with effusion on the right side and broncho-pneumonia of the left lower lobe. Dr. Ely said that but little notice is taken in the books of this form of pigmentation, but that two situations for it are described—in the centres of the lymph-nodules and in the connective tissue around them. He thought, from the appearance, that the latter was the arrangement in the specimen presented.

Besides the pigmentation above referred to, there was

A DIVERTICULUM FROM THE ILEUM

about three feet above the ileo-cæcal valve, the usual site of Meckel's diverticulum. It was about three inches long and had the circumference of the small intestine. Dr. Ely said that the usual point of origin of these diverticula was opposite the mesenteric attachment, and that they ordinarily had no mesentery, but that the one presented originated from the side of the gut near the mesenteric attachment and was provided with a mesentery of its own. Its cavity freely communicated with that of the ileum. A blood-vessel of considerable size ran along the upper wall of the diverticulum nearly to its end, and it was suggested that this might be the remains of the omphalo-mesenteric vessels of the fœtus. That the diverticulum was lined with mucous membrane was shown by the presence of one of the pigmented Peyer's patches, half in the intestine and half in the diverticulum.

Dr. Ely also presented a specimen for Dr. Hodenpyl, which illustrated one of the conditions which may result from

PERSISTENCE OF THE OMPHALO-MESENTERIC CANAL,

of which Meckel's diverticulum is the remnant. The specimen was from a child, six months old, which since birth had had a small tumor, somewhat resembling a polypus in appearance, about three-fourths of an inch long, and an inch in circumference, protruding from the umbilicus. Dr. R. J. Hall, under whose care the patient was, discovered an opening in the centre of this tumor, through which a probe passed, apparently into the intestine. He ligated the mass at its base and excised it. The wound healed rapidly. Microscopical examination showed the tumor to be covered with mucous membrane closely resembling that of the small intestine, but infiltrated with small round-cells and broken down in parts. These changes were thought to be the result of exposure. The central canal, through which Dr. Hall had passed the probe prior to operation, was also found to be lined with mucous membrane similar to that covering the tumor externally. Immediately beneath each layer of mucous membrane the connective tissue and muscular layers of the intestinal wall belonging to it were to be seen, so that from without inward there was mucous membrane, submucosa, circular muscular fibres, longitudinal muscular fibres, subserosa, longitudinal muscular fibres, circular muscular fibres, submucosa, and mucous membrane again, lining the central canal. In other words, there had been complete prolapse of a portion of the persistent omphalo-mesenteric canal.

At the meeting of December 14, 1887, Dr. L. Emmet Holt presented a similar specimen to this Society, and afterward published the case in full, with a review of the literature, in THE MEDICAL RECORD (xxxiii., 1888, 431).

Dr. Ely presented several other specimens for Dr. Hodenpyl, illustrating

TUBERCULOSIS OF THE INTESTINE.

The first was interesting because the lesion in the intestine was confined to Peyer's patches, and resembled the lesion in the early stages of typhoid fever. A distinguishing feature was at once apparent, however, on inspecting the peritoneal surface of the gut, for in the immediate neighborhood of the Peyer's patches the lymphatics were distinctly outlined by miliary and submiliary tubercles scattered along their course. In one place it was thought that a miliary tubercle had blocked the lumen of the lymphatic and caused a damming back of its contents, since the vessel was uniformly dilated and filled with a milky liquid. These changes are well described by Orth.

A specimen of

TUBERCULAR PROCTITIS

was shown. It occurred in a patient not known to have tuberculosis, and had been diagnosticated carcinoma.

A third specimen illustrated

TUBERCULOSIS OF THE VERMIFORM APPENDIX,

which the speaker thought to be quite rare. The patients from whom these three specimens were obtained were all affected with chronic phthisis, and the lesions in the intestine were secondary.

DR. BIGGS said that he did not regard tuberculosis of the appendix vermiformis as of very infrequent occurrence, but, on the contrary, his experience led him to believe that it was quite common. He had often found it at autopsies, sometimes even when no tubercular lesions were to be encountered in other portions of the intestinal canal.

DR. T. MITCHELL PRUDDEN showed some

HAIR-BALLS FROM THE STOMACH OF A PIG.

The balls were made up of the hair of the pig, which had been licked off and swallowed, mixed with sand and other matters. The hair had a curious spiral arrangement showing the effect of the gastric movements. These hair-balls are found very commonly in the pig's stomach, but their occurrence is of interest by reason of the bearing that it has on human pathology, since they are sometimes found in the stomach of man.

Dr. Prudden then showed two

HAIR-BALLS FROM THE STOMACH OF A YOUNG WOMAN,

which had been removed by Dr. Finder, of Troy, and presented by him to the museum. There were two balls, one considerably larger than the other, which were made up of human hair, horse-hair, threads from blankets, pieces of string, etc. The girl had been insufficiently fed in her youth, and had got into the habit of swallowing many kinds of inert and indigestible substances.

Other specimens were presented of hair-balls from the cow's stomach, and also a number of concretions removed from the alimentary canal of an animal. These concretions were examples of

ENTEROLITHS,

which were formerly in great repute as drugs, being popularly considered as specifics in the treatment of nearly every disease to which man is liable.

DR. HERMANN M. BIGGS presented some specimens of

STRICTURE OF THE JEJUNUM,

associated with disease of the cæcum and vermiform appendix.

For about ten years prior to 1884 the patient, a man, forty-two years of age, had suffered from what he called attacks of wind colic. In March of that year the pains became localized in the right iliac region; an abscess formed, and was opened. The wound healed rapidly at first, but a small fistula remained through which air and fecal matters were passed. Three months later the external opening of this fistula was closed, as a result of treatment, but reopened after four years. During the greater part of this time, however, he was unable to take any solid food, on account of severe colicky pains which it caused, and was therefore confined almost entirely to a fluid diet. The amount of nourishment which he was able to secure in this way was insufficient to give him strength enough to permit him to work.

The patient was admitted to Bellevue Hospital in April, 1888, and was operated upon in June of the same year. On following up the fistula a large opening was found in the cæcum. The operation-wound healed readily, but the fistula did not close. In September Dr. Hartley operated again. The edges of the rent in the cæcum were freshened, and then united by two rows of sutures. The patient did well after the operation, but died in January of the present year from an attack of facial erysipelas and acute laryngitis.

At the autopsy an external opening was found in the right inguinal region, communicating by separate channels with the head of the cæcum and with the ileum. In the lower portion of the jejunum was a very tight stricture, barely admitting a small probe. The intestinal mucous membrane down to this point seemed to be perfectly normal. Below the seat of the stricture was found a small cicatrix, but it was longitudinal in direction and was not of sufficient size to cause any noticeable contraction. It was easy to understand, from the presence of this stricture, why the patient should have had wind colic. The vermiform appendix was apparently absent, and a large sinus was found extending from the cæcum just at the level of the ileo-cæcal valve. The valve itself was almost obliterated. There was a small opening, scarcely one-quarter of an inch in diameter, directly between the colon and small intestine.

A second specimen was presented of

INTERNAL STRANGULATION OF THE INTESTINE.

The patient was a young unmarried woman who gave no history of any previous illness. She had had a child four years before. A few days before her death she was seized with intense abdominal pain, nausea, and vomiting. The latter persisted in spite of treatment, and increased in severity. Cathartics failed to act, and the patient finally died. At the autopsy old peritoneal adhesions were found, and two or three small coils from about the middle of the cæcum had passed through an opening in these adhesions and had become strangulated. The condition, had it been diagnosed, might easily have been relieved by a laparotomy.

Dr. Biggs then presented a third specimen, illustrating a form of disease in which we sometimes have very few symptoms, viz.,

MALIGNANT DISEASE OF THE UPPER PART OF THE RECTUM.

The patient had complained of some trouble with the bowels, but had very little pain, and was not supposed to be suffering from any very serious disease. Suddenly very severe pain came on, and the patient died in a short time. At the autopsy a tumor was found in the upper portion of the rectum. Very deep ulcerations were present, and in two places the bowel was seen to be perforated. Both these perforations opened into the same ulcer, although they were separated the one from the other a distance of from one-half to three-quarters of an inch.

Dr. L. Emmet Holt presented a specimen of

PIGMENTATION OF THE INTESTINE.

It was removed from a child, three months old, who had died with marasmus without presenting any special clinical history. The pigmentation was very marked in Peyer's patches, in the colon, and in the mesenteric glands. There was no disease of the suprarenal bodies.

Dr. W. P. Northrup presented a gross specimen from a case of

ACUTE GASTRITIS AFTER THE ADMINISTRATION OF TURPETH MINERAL.

To a child, aged fourteen months, affected with diphtheria of the larynx and croup, was given an emetic of turpeth mineral (gr. iij.). This did not produce emesis, and one hour later ipecac was given and vomiting ensued. Three hours after the administration of the turpeth mineral the patient died. Cause of death, diphtheria of the larynx and broncho-pneumonia. The irritating emetic was not thought to have contributed to the fatal result, as the patient was in a dying condition when it was given.

This specimen and that of the following case were shown together to illustrate the irritant action of this mineral emetic.

On autopsy the stomach was empty, its walls in its cardiac half coated with thick, tenacious mucus, embracing small scattered masses of yellow sulphate of mercury, the mucous membrane beneath being intensely congested. The remaining portions of the stomach were normal, and the intestines were also normal.

The following was quoted from "The National Dispensatory of Stillé and Maisch," p. 786:

"*Turpeth mineral* is a powerful irritant, and, in sufficient doses, may act as a corrosive poison. . . . Several fatal cases are recorded. In a recent instance a healthy child, aged five months, died, poisoned by five grains of this preparation eleven hours after taking it. . . . Drs. Randolph and Roussel report the cases of five men, each of whom had at first five grains, and later three grains of the medicine. . . . The employment of so dangerous a remedy in a disease which involves no danger to life is inexcusable. The emetic action of this preparation is the first stage of its poisonous operation. The dose fitted to produce that effect is from two to three grains for a child. . . . It seems to be a superfluous article of the materia medica."

The same authors speak of its causing salivation.

Dr. Northrup then presented gross mounted specimens and microscope-sections from

A CASE OF ACUTE ULCERATIVE GASTRITIS AND NODULAR ENTERITIS, AFTER DIPHTHERIA OF THE LARYNX AND THE ADMINISTRATION OF TURPETH MINERAL.

To a male child, aged three and one-half years, suffering from diphtheria of the larynx and croup, was given an emetic of turpeth mineral (gr. iij.). No emesis was induced by it, and an hour later the dose was repeated. Two hours after the administration of the first dose vomiting ensued.

Twelve hours later the patient died. Cause of death, diphtheria and broncho-pneumonia. Before the urgent symptoms of croup set in the patient had been taking corrosive sublimate, gr. $\frac{1}{60}$, diluted in an ounce of water, every hour for twelve hours. The bichloride frequently reddens the mucous membrane of the stomach, and in diphtheria the solitary and agminate lymph-nodules of the small intestine are often enlarged moderately.

Dr. Northrup expressed the belief, however, that the excess of the lesion was due to the action of turpeth mineral.

On autopsy, in the cardiac half of the stomach, and more especially along the greater curvature, were found broad superficial ulcers, upon which was lying a thick coating of tenacious mucus and necrotic epithelium, with small scattered masses of turpeth mineral. The mucous membrane of the pyloric half and greater curvature was intensely congested, coated with mucus, with a few flakes of the mineral-emetic distributed through it.

Intestine: The lymph-nodules from pylorus to lower third of ileum—single and agminate—were exceedingly

enlarged. The mucous membrane was deeply congested in areas, coated with dirty brownish and greenish mucus, having here and there small masses of turpeth mineral surrounded with greenish mucus. Resting upon a Peyer's plaque, at the lowest part of the ileum affected, was a small mass of the emetic. The plaque was much congested and dusky and swollen. This point marked the limit of the congestion and excessive enlargement of the nodules and the presence of the mineral.

The remaining portion of the ileum and the colon were not congested; the lymph-nodules were slightly enlarged and the surface was thinly coated with mucus. In the colon was still castor-oil.

Case I. showed the effect of the presence of turpeth mineral in the stomach for three hours—localized severe inflammation.

Case II. shows the effects after twelve hours' presence—ulcerative gastritis—severe enteritis, with marked enlargement of the lymph-nodules as far as the mineral had advanced.

Microscope-examination of the seed-like bodies diffusely scattered through the small intestine of Cases I. and II. showed simple hyperplasia of the lymph-nodules.

Some other gross specimens and microscope-sections were presented, illustrating a case of

ENTERITIS WITH SWOLLEN PEYER'S PLAQUES AND ENLARGED FRANGIBLE SPLEEN.

A female child, five months old, wet-nursed, vomited two or three times two days before death—temperature, 99½° F. in the rectum. Her bowels moved freely after castor-oil. On the following day the patient went into collapse and died two hours later. No convulsions.

On autopsy was found marked swelling of Peyer's plaques and of a few solitary lymph-nodules of the small intestine, swelling (universal) of the mesenteric lymph-nodes, swelling and softening of the spleen. Heart, brain, stomach, and kidneys, normal. Colon nearly normal.

Dr. Prudden made cultures from the case for typhoid bacilli; none were found.

Microscope-examination of Peyer's plaques showed simple hyperplasia of lymph-nodules.

Dr. Northrup also presented gross specimens and microscope-sections from a case of

DIPHTHERIA OF THE PHARYNX AND ŒSOPHAGUS.

The interest of this case consisted in the particular location of the diphtheritic process in the pharynx and the extensive ulceration of the œsophagus.

One week before death the child, aged fourteen months, was affected with ulcerative stomatitis. Five days later a thin pellicle of pseudo-membrane was first discovered on tonsil. There was a suspicion that diphtheria was present before this time, but no membrane could be found. Diarrhœa the last two days of life.

On autopsy the tonsils were not swollen and no false membrane was found, excepting at the very lowest part of the pharynx, in the sinuses at the sides of the larynx called laryngo-pharyngeal. These corners were ulcerated, covered with rather thick slough, and on microscope-examination proved to be diphtheritic, having the usual characteristics, including numerous colonies of micrococci. There was then softening diphtheritic membrane in a position to drain directly into the beginning of the alimentary canal. The œsophagus, when opened, showed two straight rows of ulcers, circular, punched-out, having elevated walls, a little undermined, clean floor, varying in size from seven to three millimetres. These two rows were exactly opposed to each other before the œsophagus was slit open. The microscope-examination added only negative testimony, and the reasonable presumption was that the ulcers were of diphtheritic origin and that the necrotic tissue had sloughed away, leaving clean ulcers.

The stomach was covered throughout with a uniform grayish pellicle, not tenacious, this resting upon a congested mucous membrane. Microscopic examination showed catarrhal gastritis—no pseudo-membrane. There was also catarrhal entero-colitis.

A card specimen of a microscope-slide was then presented, showing

TUBERCULAR TISSUE FROM A JOINT

removed by operation. The specimen was of interest, showing unusually large and typical giant-cells, also the close grouping of typical tubercle granules with very little tissue between them—the whole arrangement being almost "schematic."

Dr. Holt, referring to the case of intestinal lesions found after the administration of turpeth mineral, said that he did not think the glands could have become so greatly enlarged in so short a space of time as had elapsed between the exhibition of the drug and the death of the child. Might not the lesions have been due to the action of the diphtheritic poison, independent of the presence of the mercurial?

Dr. Messenger said that he had used turpeth mineral a number of times in the early stages of laryngitis, and had never seen any but good effects from its employment. He had, however, never given more than one grain at a dose.

Dr. Roosevelt asked whether an analysis had been made of any of the unused portions of the drug which had not passed through the stomach and intestines, to ascertain if possibly there were not some of the bisulphide of mercury present. He did not think that the explanation of the production of the intestinal lesions, offered by Dr. Northrup, was entirely satisfactory; for, if the inflammation in both the stomach and the small intestine were caused by the turpeth mineral, why should it be most marked around the collections of the drug in one organ and be a diffuse inflammation in the other?

Dr. Prudden thought that it was a little hazardous to refer the production of the intestinal lesions wholly to the action of the turpeth mineral, since the diphtheritic poison was capable in itself of causing a swelling of the glands. Might not the lesions be due to the combined action of the poison of diphtheria and of the turpeth mineral?

Dr. Northrup said that he still saw no reason to doubt the correctness of his assumption. As far down the intestine as the lesions extended the presence of the turpeth mineral was found, but below this point, in the portions not yet reached by the poison, the intestine was normal. To his mind the relation of cause and effect seemed most evident, despite the objections raised by the several speakers discussing the case.

Dr. H. M. Biggs presented a specimen of

PERICARDITIS WITH EFFUSION IN A CHICKEN.

The amount of effusion was very great, and there was almost a perfect mould of the pericardium, made up apparently of fibrin and pus. There were also some small nodules on the surface, the nature of which he had not yet had time to ascertain, as the specimen had been received but a short time before and had not been carefully examined.

A second specimen was one of

ACUTE MILIARY TUBERCULOSIS.

The miliary tubercles were present in enormous numbers in the peritoneum, liver, lungs, and other organs. In searching for the source of infection the only old tubercular lesion to be found was in the articulation between the first and second pieces of the sternum. Here there was some cheesy matter containing tubercle bacilli. No other source of infection could be found anywhere in the body.

Dr. Sarah J. McNutt presented a specimen showing

INTRACRANIAL HEMORRHAGE

in a child eight and a half months old.

A male child, eight and a half months old, was admitted to the Babies' Hospital for gastro-intestinal catarrh and

congenital syphilis. Child died, March 26th, of inanition. There had been no history of convulsions or injury.

*Autopsy*, twenty-four hours after death, showed marked emaciation; there was evidence of a gastro-intestinal catarrh of long standing, œdema of the lungs was present, and the heart was distended by a dark clot. The liver, spleen, and kidney were apparently normal. The bones of the skull were thin, membranous in appearance, and could be readily cut by scissors. The anterior fontanelle measured three inches in its antero-posterior, and two inches in its transverse diameter. On cutting through this fontanelle two ounces of fluid, the color of weak coffee, escaped. The arachnoid membrane was seen to be thin, transparent, and raised by a clear, colorless fluid, in marked distinction from the rusty-colored fluid that had escaped on opening the skull. Lining the right frontal and parietal bones in their lower third, and also the adjacent skull-bones, was a thin, very vascular membrane, covering an area of two by three and a half inches, the vertical diameter being the shorter. This membrane, although adherent to the dura, was readily separated from it, leaving it pale and evidently free from hyperæmia. Beneath this membrane, at its centre, was a thin clot of blood about the size of a quarter of a dollar. No rupture of the blood-vessels of the pia could be found, nor any injury to the substance of the brain. The pathological condition would seem to have been caused by a hæmatoma of the dura mater, as in pachymeningitis hæmorrhagica.

Dr. Frank Grauer presented some specimens illustrating

ACUTE MILIARY TUBERCULOSIS,

removed from the body of a young man who had died in the Harlem Hospital. Up to four weeks before admission he had been apparently in perfect health. His chief complaint then was of severe pain, which was thought to be neuralgic. Upon admission his pulse was 68, temperature, 100.5° F., and there was slight rigidity of the muscles at the back of the neck. He soon became delirious. A diagnosis was made of meningitis. At the autopsy there was found to be acute miliary tuberculosis. The lungs were studded with tubercles, and tubercles were found also in the liver, spleen, and kidneys. The kidneys also contained small abscesses. The mesenteric glands were enlarged, tubercular ulcers were found in the intestine, and the brain also contained numerous tubercles.

A second specimen showed

ACUTE YELLOW ATROPHY OF THE LIVER.

At the time of admission to the hospital the patient was jaundiced and had œdema of the lower extremities. He was delirious, and remained in this condition until his death. At the autopsy hemorrhagic infarctions were found in both lungs. The heart was very pale, the aorta was atheromatous, and the coronary arteries were diseased. The peritoneum showed numerous points of hemorrhage, and there were also hemorrhages in the mesentery. The stomach and intestines were very much congested. There was meningitis, not very pronounced, and areas of hemorrhage were found in the brain. The liver was in a condition of acute yellow atrophy. Some fresh sections of the liver were examined under the microscope, but were not very characteristic of acute yellow atrophy. Other sections had also been made, but had not yet been examined.

The Society then went into executive session.

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Deafness in Old Age.—Sapolini, of Milan, has described a method of his which he states he has successfully employed in sixty-two cases of deafness of old age. It consists in mopping the membrana tympani with a weak oleaginous solution of phosphorus. He claims that the treatment diminishes the opacity of the membrane, increases the circulation, and improves the hearing.—*Kansas City Medical Index.*

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE PRESIDENCY OF THE COLLEGE OF SURGEONS—THE LOCAL GOVERNMENT BILL FOR SCOTLAND—THE NOTIFICATION OF INFECTIOUS DISEASES—SURGICAL TUBERCULOSIS AND PHTHISIS—THE REGISTRATION OF TRAINED NURSES—ENGLISH CONTRIBUTIONS TO THE PASTEUR INSTITUTE—THE MUZZLING OF DOGS.

London, July 21, 1889

Until the last few years the presidency of the College of Surgeons has—unlike that of the College of Physicians—been an annual office held in rotation by the senior member of the Council. Seniority on the Council came to be regarded as constituting a claim to the presidency. Such a system easily became possible under the mode of election to the presidency in force at the College of Surgeons, viz., by the Council selecting one of their own number to occupy the presidential chair. This method still continues, and is in marked contrast to that in vogue at the sister college, where the President is elected by the general body of Fellows. By the election of Mr. Savory to the presidency of the College of Surgeons, the old rule of seniority was broken through, and by his re-election for several successive years the tradition of looking upon the office as an annual one has been extinguished. Though a stanch opponent of democratic reforms in the College, Mr. Savory has been an able President, commanding respect even from his opponents. I need not refer to his eminence as a scientific surgeon. It is true that his continued re-election did not take place without comment, and it was rumored that Sir Joseph Lister's retirement from the Council was due to a feeling that he had been passed over by the repeated re-election of Mr. Savory as President. The latter has now declined further re-election, and the honor has therefore been conferred on Mr. Hutchinson, in whom the College has a worthy successor to Mr. Savory. Like Mr. Savory, Mr. Hutchinson is a Fellow of the Royal Society, and his name will be familiar to your readers as an able exponent of British surgery, and especially as an authority on syphilography, dermatology, and ophthalmology, in each of which departments, as well as in general surgery, he has left his mark in the domain of original research. Mr. Hutchinson is *facile princeps* in so many branches of surgery that he may be not unfairly described as a general specialist. Nor has he confined his attention strictly to surgical subjects, as witness his lectures on gout and rheumatism delivered before the College of Surgeons a few years ago. By his election as President the London Hospital is placed in the unique position of having upon its consulting staff the presidents of both the College of Surgeons and the College of Physicians (Sir Andrew Clark). It is curious to note that these gentlemen live next door to each other in Cavendish Square.

By accepting an amendment to the effect that every County Council in Scotland shall elect a medical officer of health, the Government has decidedly increased the value of the Local Government Bill for Scotland, now before the House of Commons. I refer, of course, to its value as a sanitary measure. The medical profession will, however, regard very differently the bill brought forward by the Government for the Notification of Infectious Diseases. It is proposed that such notification (to the medical officer of health for the district) shall be dual, viz., both by the head of the family or other person in charge of the patient, and by the medical man in attendance. The imposing the duty of notification on the medical attendant will be resisted by the medical Members of Parliament—it is to be hoped with success. Should the bill become law, a redeeming feature of it is that it is not to be compulsory, but only to apply to such districts as shall

voluntarily determine to adopt it. Where thus accepted, however, the above arrangement will be in force unless the bill should be amended in this respect.

In Mr. Howard Marsh's recent lectures on "Tuberculosis in some of its Surgical Aspects," delivered at the College of Surgeons, he remarked that one fact in connection with age demanded particular notice. That was that surgical tuberculosis and phthisis were prevalent at different periods, and were, speaking broadly, separated from each other by an interval of between five and fifteen years. It was remarkable that pulmonary phthisis and surgical tuberculosis very seldom occurred together, or as complications, the one of the other. At the Alexandra Hospital for Hip-disease, phthisis was very rarely met with, and he was informed by Dr. Douglas Powell that at the Brompton Consumption Hospital tubercular disease of the joints and caries of the spine were scarcely ever met with among the patients with tubercular phthisis.

The scheme propounded by the British Nurses Association, for the registration of nurses and for the formation of a Nurses' Register, on somewhat parallel lines to the Medical Register, is being strongly opposed. A "Memorial of Nurse-training School Authorities" has been drawn up, setting forth in brief some of the objections to the proposed scheme. It has already been influentially signed, among the signatures being those of representatives of most of the metropolitan hospitals at which nurses are trained.

The English fund in aid of the Pasteur Institute is slowly augmenting. Meanwhile dogs within the Metropolitan Police District are to be muzzled from August 1st until the end of this year.

## EXECUTION BY ELECTRICITY.

To the Editor of The Medical Record.

SIR: It is not my intention to enter into any controversy regarding the electrical resistance of man, for that subject has been ably investigated by several very competent observers, and the facts as stated by me can be verified by any one who will take the trouble to consult the original writings of Jolly or Gärtner, or the recently issued text-book of Lewandowski.

You appended a note, however, to my letter in your issue of July 27th, making a number of statements which I cannot allow to go unchallenged. I ask you, therefore, to print this second and final letter.

First: You state "the electrical experts who have referred to the enormous resistances of the human body refer to it as taken under peculiar conditions." This is incorrect. The resistances were determined by the use of large, well-moistened electrodes, made of brass and covered with sponge (Jolly); or of zinc electrodes covered with sponge and linen and dipped into a solution of zinc sulphate (Gärtner). In every instance the electrodes were accurately applied to the skin, with the aid of rubber bands or some other contrivance, and the tests were made on men and women of varying ages. The tests were made with the Wheatstone bridge. It seems to me, therefore, that such testimony is very much to the point.

Second: "With proper contact the human electrical resistance is not likely to exceed 2,500 ohms." This is a statement which has gone the rounds of text-books for years, but is absolutely disproved by the authors mentioned above. It is much nearer the truth to say that 2,500 ohms represent an unusually low human resistance; in fact it is near the minimum.

In therapeutic applications we can afford to wait until the electrical resistance has reached its minimum; in executions by electricity death should be instantaneous. This can be effected only in case the current is strong enough instantly to overcome the highest resistance. This resistance is as stated in my former letter. It is important also to keep in mind that the *current flowing through moist sponges is the chief agent in reducing resistance*, and not the moist sponges alone.

Third: The "expertness" of the testimony which intimates that the resistance is 500,000 ohms is called into question, since Mr. Edison has shown (*sic*) that the resistance of the human body, "with proper contact, ranges from 660 to 1,500 ohms." I am second to none in my admiration of Mr. Edison's genius, but he did not realize the conditions of the problem he attempted to solve, and he has simply determined (what medical men *erroneously* determined a decade ago) the *minimum resistance* of the human body, and not the maximum. I am a little surprised that any medical man should attach much importance to tests so hastily and so imperfectly made, and that he should prefer them to the careful investigations of medical men of the very highest repute. If man were a mass of metal Mr. Edison might be right; as it is, he is hopelessly wrong.

Fourth: Your statement that a current represented by the formula $CS = \frac{1}{2}\frac{5}{0}\frac{0}{0}\frac{0}{0}>$ passed through the brain instantly kills, requires some qualification. I am of the opinion that a current of one ampère may kill, but such a current will not pass through the body until the resistance shall have been reduced from 20,000 to 1,500 ohms, and there will be a very appreciable lapse of time before that figure is reached. It is a mistake to suppose that resistance is reduced instantly; different parts of the body vary in this respect. It has been shown that under strong currents the resistance of the feet, for instance, after the lapse of a minute, has been reduced only from 22,000 S units to 20,000 units (Jolly).

The differences between us may be summed up thus: You argue, let the executioner take his time, and when the minimum is reached the victim will be dead. No doubt; but what will the victim's sufferings be in the intervening minute or two? I say, the current should kill instantly, in spite of the maximum resistance of the criminal's body.

B. SACHS, M.D.

August 1, 1889.

[Our correspondent lays too much weight, we think, upon the exceptional statements of certain experimenters. The methods of testing human resistance are not difficult or complicated, and neither Jolly nor Gärtner can be credited with any superior and exclusive knowledge of the technique which would enable them to obtain more certain results than have experienced electricians like Edison. The intimation that human resistance under ordinary conditions of good contact is often 500,000 ohms is, we must repeat, somewhat startling, if not absurd. Every medical man who has dealt with human resistance knows very well that 2,000 ohms is a fair average with good contact. The formula referred to in point fourth was incorrectly printed, it should have been $CS = \frac{1}{2}\frac{5}{0}\frac{0}{0}$.—ED.]

## SOCIETY FEVER VERSUS YELLOW FEVER.

To the Editor of The Medical Record.

SIR: In THE MEDICAL RECORD for June 8th is an article entitled "The Cost of Yellow Fever Epidemics—The Epidemic at Decatur, Ala., in 1888," by W. E. Forest, M.D.

The paper is valuable and instructive, but there are two or three statements regarding the epidemic in Jacksonville Fla., which are decidedly at variance with the facts. Dr. Forest, of course, is not responsible for these errors, as he was not here and could only procure his information from unreliable sources.

He states that yellow fever reached Jacksonville as early as February; that it ran a mild course through the early spring and summer under the name of "society fever," but that its existence was concealed by the authorities, and that they did not admit its presence until August.

As one who treated a number of cases of this "society fever," and who practised through the epidemic of yellow fever and had the disease, I deny in the most positive manner that there was any similarity between the two

diseases. Those cases of fever that occurred in February and March were purely enteric or typhoid fever. The nickname of "society fever" was given to the disease in a foolish manner, because most of those attacked were among those who had been dissipating at hops, etc., during the season. It would be impossible for the veriest tyro in medicine to make a mistake in diagnosis between typhoid fever and yellow fever. It presented all the marked characteristics of enteric fever. The temperature ranged above normal from three to six or more weeks; the tongue was brown or black, and dry; the teeth covered with sordes; the passages from the bowels and bladder were frequently involuntary; there were delirium, subsultus tendinum and carphologia, and all the other well-known symptoms of typhoid. The fever in yellow fever lasts from one or two days to five days, and the patient is generally on the street in ten days. Not by the utmost stretch of imagination could this so-called "society fever" be considered as yellow fever. I am aware that Surgeon-General Hamilton has made the same statement as Dr. Forest, but he has had nothing upon which to base such a report, and it has also been corrected by local physicians. Another and most convincing proof that the two diseases were not the same is furnished by the fact that I know of more than a half-dozen cases of yellow fever (some in my own practice) which occurred among those who had had typhoid fever in the winter and spring, and three of these cases of yellow fever died. Was it ever before known that a person could have two attacks of yellow fever, and especially within a few months?

Dr. Forest states that there were only about ten thousand people remaining in the city, and that more than 10,000 cases of yellow fever were reported before the epidemic closed. We should be obliged to infer from this that a large number of people were not satisfied with having one attack, but, contrary to precedent, insisted upon having one or more additional attacks.

About one month after the fever broke out the Sanitary Association caused a census of the city to be taken. It disclosed the fact that there were then in the city 13,757 people, of which 9,812 were colored. The report of the Board of Health gives the total number of cases of fever as 4,696, divided as follows: Whites, 2,173; colored, 2,523. Deaths: whites, 331; colored, 99.

HENRY R. STOUT, M.D.

JACKSONVILLE, FLA.

## MISSOURI PHYSICIANS AND THE STATE BOARD OF HEALTH.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Will you kindly allow me to call your attention to some errors in your editorial, "Missouri Physicians and the State Board of Health" (THE RECORD, June 29, 1889). The State Board of Health is still in existence and doing as much work as the money at its disposal will allow. The Legislature made appropriations as follows: For Secretary's salary, $3,000; for expenses of Board for 1889–90, $1,000; to reimburse members of the Board for money spent in the discharge of duty, $1,070.60.

The State Medical Association appointed a committee of three physicians—Dr. E. A. Dourlan, St. Joseph; Dr. Pinckney French, Mexico, and Dr. Porter, St. Louis—to devise means for creating public sentiment among the laity in favor of the Board, and to also arouse the physicians to their duty. The session of the Legislature was almost at its close when the Association met, and before any action could be taken adjourned.

State Medicine in Missouri is laboring under considerable difficulty, and while it is true that the medical profession is partly to blame for the present condition of affairs, it is not true that they are altogether responsible.

I have taken the liberty of addressing you with regard to this matter, and trust that you will let your readers know the true condition of affairs with us.

Very truly, DANIEL MORTON, M.D.

## THE PHYSICIAN IN THE SUNDAY-SCHOOL.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Allow me to make a statement prompted by reading your note in THE RECORD, July 20th, on "Going to Church." I have lived in this city for the past twenty-four years, and during that time (when at home) have seldom missed attending church once, and even twice, each Sabbath. Twenty-one years of the time I have been superintendent of a Sabbath-school, and have seen its numbers grow from one hundred and fifty to four hundred and fifty. I have seldom been absent from my school. I have never "hung around" my office on the Sabbath-day to catch business, but have always attended to necessary work. I have never reckoned the cost whether my church duties were a financial gain or loss. The duty was mine—the results belonged to God. "Trust in the Lord and do good; so shalt thou dwell in the land, and verily thou shalt be fed." I have been fed. Aside from duty, the change of mental work in these labors has proved to be a real rest and pleasure. If this little note should meet the eye of some young physician standing in the pathway of life where the lines diverge, allow me to say to you, earnestly, that you will secure better health, more genuine friends, and more real enjoyment by spending a spare hour each Sabbath in the Sunday-school, rather than on the base-ball ground. Life is short, and the "night cometh."

Respectfully yours,

G. W. H. KEMPER, M.D.

MUNCIE, IND., July 22, 1889.

## THE DANGERS OF BOTTLED MILK.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: When we take into consideration milk as being one of the chief necessities of the sick-room and nursery, we cannot deny that *it*, above all things, demands our greatest attention. Oftentimes it has occurred to me, when seeing bottles of milk brought into the sick-room, how easily these may serve as a means of carrying poison or germs from one place to another. Realizing the danger and importance of this subject, I have given the matter some attention, and investigated the methods of several prominent milk-dealers of our city.

The first, and one important point to be considered in bottled milk, is the great amount of dishonesty practised among milk-dealers. It is very exceptional that the reality is as we picture it. There are very few firms who bottle their milk in the country. On the contrary, it is brought here about one or two o'clock in the morning (in large cans), and put in bottles after its arrival. Thus it may happen that your next-door neighbor may get the same milk for less money and of same quality for which you yourself pay extra. This is a great fraud, practised in our own city, and few suspect it. Like in every other business, the almighty dollar is the chief attraction. People have fancies, and those fancies must be gratified in order to retain their custom. The very thought of its being bottled in the country, retaining the fragrance and purity of the farm, is in itself sufficient to induce many people to buy it in this form. Yet it is fair here to state that some dealers are perfectly honest in this respect, while others are deceptive.

Again, when we think of these bottles being cleansed in a vat of water where dozens of others have been washed, how can we expect thorough cleanliness?

Many may say the large cans are no more thoroughly cleansed. But observation and common-sense convinces one that a large can could be much more thoroughly washed than a narrow-necked and small bottle. Admitting for a moment that the large cans were no better washed than a bottle, we could not contract half the poison, comparatively, from a forty-quart can as that could from forty one-quart bottles.

Here comes in the most important point in this paper,

viz., the contagion which might result from the indiscriminate use of these bottles. The very same bottles you use this morning may have been standing in a sick-room yesterday. Patients oftentimes drink immediately from the bottle. It is reasonable to suppose that, having stood in the sick-room, they are as much impregnated with poison as any article in the room. Often the bottles are closed in the sick-chamber, thus shutting in the dreaded germs and doubling thereby the extent of danger feared.

The ordinary cans from which milk is dipped never enter a house, and hence must be more pure. They stand no chance of being contaminated with disease. The only argument or point that can be raised in behalf of bottled milk is, that no dirt can enter, as occasionally does, in milk dipped from large cans. But who would not prefer a trace of dust to a trace of some dreaded disease.

The risk certainly is great, and should receive our earnest attention. E. BLACKWELL, M.D.

4 EAST THIRTY-SEVENTH STREET.

## PURE DRINKING-WATER.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The question of obtaining pure drinking-water, either from our reservoirs in the cities or from wells and springs in the country, and preventing the contamination of the same, has been agitating the minds of the people for some time; and essays upon and discussion of the subject are filling the columns of the medical and lay press. In none of the recent publications, however, so far as I read them, have I seen any notice taken of an important observation made by Kraus, about two years ago, and published in the *German Archives for Hygiene*, 1887, pp. 237–252.

Kraus made a number of carefully conducted experiments on the behavior of various pathogenic and common saprophytic bacteria in drinking-water, and found that pathogenic bacteria of various kinds mixed with drinking-water from reservoirs or wells invariably disappeared from such water in a few days, having lost their ability of multiplying. Of Koch's vibrio, for instance, not a trace could be found after twenty-four hours. Typhoid bacilli cannot be demonstrated any more after six days, and those of anthrax after three. Now, both the bacilli of typhoid and Koch's vibriones are known to have retained their power of development in sterilized water for thirty-two and even eighty-two days, and it appears to be perfectly logical, therefore, when Kraus infers that the rapid destruction of the pathogenic germs in non-sterilized water is due to the action of the common water-bacteria. It is also interesting to know that the result of observation was the same, whether pure spring-water or impure well-water had been used in conducting the experiments.

What science has demonstrated here has been practically known to observing country people for many years. The farmers around Tannersville, for example, where I have been in the habit of spending my vacation for some years, have to keep a pretty sharp look-out nowadays to keep their wells and springs from poisoning by the more or less defective or badly located drains of the numerous boarding-houses and small hotels in and around the village and on their own premises. But they tell me that the infecting focus once discovered, and the ichorous oozing from it to the spring effectually cut off, the contaminated spring-water will run pure again in a week or two, and be fit once more for use without danger. I have not seen them, however, use the water of suspected wells in less than a month or two after cleansing them, and thought well of their precautions in that respect. On the strength of these significant researches of Kraus, to relax our vigilance as to the various contaminating sources of our water-supply would be folly indeed; but it is of great practical value to have it demonstrated that the common water-bacteria will make short work of pathogenic germs, and soon purify a polluted spring after we have succeeded in removing the cause of its pollution.

LEONARD WEBER, M.D.

# New Instruments.

## A NEW POCKET-CASE.[1]

BY HENRY S. STARK, A.B., M.D.,

NEW YORK.

MY experience in private practice has demonstrated to me that the busy practitioner of to-day cannot satisfactorily diagnosticate certain cases at his first visit to the bedside, although he possesses the requisite ability and the disease is sufficiently advanced for diagnostic purposes, for the simple reason that the clinical apparatus and appliances that are required for this purpose are too numerous and bulky to be carried in one's pocket, and that no portable method has heretofore been devised to obviate the difficulty.

In consequence, it frequently enough happens that the physician is only enabled to diagnosticate his patient's disease at a subsequent visit, when he comes armed with the necessary paraphernalia; in the meanwhile his treatment had been symptomatic, and the disease had been allowed to run its course, working its way for weal or woe.

Many of my readers will recognize the truth of this statement, and can recall cases *à propos* of my statements. That such a deficiency should have been tolerated in this advanced state of the medical sciences is indeed deplorable, and that no way out of the difficulty should have been devised is indeed a matter of surprise.

To illustrate my meaning, permit me to enumerate several cases that came within my own observation.

Several months ago I was summoned to the bedside of an apparently well-nourished man, about thirty-five years of age, who lay in a state of coma; his radial pulse was markedly weak and thready, pupils somewhat dilated and not responsive, breathing stertorous, temperature normal. The patient lodged with strangers who knew nothing of his previous history. Having satisfied myself that no accident had befallen my patient, I naturally thought of apoplexy, embolism, nephritic or diabetic coma. The absence of cardiac murmurs, and the equally dilated pupils, led me to exclude the first two; yet I was not in a position to state which of the latter two was the disease from which the patient was suffering.

It then occurred to me that if I had had with me the necessary apparatus for the detection of albumen, and the determination of the specific gravity of urine, I might have been able to properly diagnosticate the disease.

A second case presented the alternative of diagnosticating acute pleuritis or pneumonitis in an adult. The case was of such a nature that the aspirator-needle alone could have determined which disease was present; but not having a long aspirator-needle with me, and the hypodermatic needle proving, on trial, too small, the decision of this important step had to be postponed until the next visit.

A third case. I was requested by a colleague to administer ether to a patient prepared for operation. On looking at the patient, I asked the operator whether the patient's urine had been examined, as she looked "Brighty," and that the administration of ether might be likely to be followed by renal trouble. The operator acknowledged that this precaution had not been taken, and that the examination at this stage would be impossible, as neither of us had with him the requisite outfit for the gross examination of urine.

These cases will unquestionably serve to recall parallel cases in the daily practice of my readers, and will indicate the necessity of always having at hand, in our rounds from house to house, a certain outfit intended for clinical and diagnostic purposes.

A further inconvenience, occasionally encountered by the general practitioner, is the delay occasioned in having

[1] Read and demonstrated at a meeting of German Practitioners January 25, 1889.

a prescription prepared, especially in such cases where immediate medication is indicated.

We are summoned, I will say, in the dead of night to a severe case of hemorrhage, to a case of impending heart-failure, or of heart-collapse, or of poisoning; I venture to remark that the time consumed in writing a prescription, in waking the druggist and having him fill out our prescription, and waiting for the messenger with the medicine, has often proved disastrous to our patients.

To obviate the two difficulties indicated in my remarks, I have devised the pocket-case represented in the accompanying wood-cut.

The dimensions of the leather case, 5 × 2¾ × 1⅛ inches, make it easily portable in the coat, trousers, or even vest pocket.

The best conception of the case can be gotten by glancing at the drawing, which represents the case with the upper cover raised, exposing the contents to view. It is partitioned off into an upper and a lower compartment, each fitted with a sliding cover. At either extremity is a horizontal diaphragm with various-sized perforations, intended to hold the contents *in situ*.

The upper compartment contains (see Figure), enumerating from left to right, a complete hypodermatic outfit—barrel, two needles with wires, a vial for morphine; two thermometers with different-colored bulbs, the one intended for the rectum, the other for parts other than the rectum; a tongue-depressor, a pipette, a urinary test-tube with a urinometer, an aspirator with a three-inch needle, rendering it capable of use in all serous cavities. The barrels of the syringes are also variously colored to indicate their widely different purposes. The needle orifice of the hypodermatic syringe is enlarged to permit the ready entrance of a compressed tablet of some medicament intended for subcutaneous injections (see diagram), and readily soluble in water, which is afterward drawn into the barrel.

The lower compartment is analogous in construction to the upper, and contains compartments for five small vials for compressed tablets of such drugs as the physician selects, *e.g.*, ergotin, digitalin, cocaine, atropine, etc. There is also a place for red and blue litmus papers.

It will be seen that this "portable clinical pocket-case" affords the practitioner an opportunity of always having at hand a certain clinical and chemical outfit, which is called into constant requisition in a general practice.

270 East Seventh Street.

## Army News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 4, to August 10, 1889.*

Smith, Andrew K., Colonel and Surgeon, by direction of the Acting Secretary of War is granted leave of absence for seven days. Par. 12, S. O. 178, A. G. O., August 3, 1889.

Janeway, John H., Major and Surgeon, is hereby granted leave of absence for two months, with permission to apply for an extension of two months. Par. 3, S. O. 52, Headquarters Division of the Pacific, July 29, 1889.

Woodhull, Alfred A., Major and Surgeon, by direction of the Acting Secretary of War is granted leave of absence for two months, on account of sickness, with permission to leave the Division of the Missouri. Par. 5, S. O. 178, A. G. O., August 3, 1889.

Cochran, John J., Captain and Assistant Surgeon, now on duty at Fort Adams, R. I., by direction of the Secretary of War will report in person to the Commanding General, Department of the Platte, for temporary duty with troops *en route* to and at the summer camp at Fort Robinson, Neb. Upon the completion of this duty will return to his proper station. Par. 10, S. O. 180, A. G. O., August 6, 1889.

Gorgas, William C., Captain and Assistant Surgeon. By direction of the Secretary of War the leave of absence granted him in S. O. 84, July 3, 1889, Department of the Missouri, is extended two months. Par. 2, S. O. 182, A. G. O., Washington, August 8, 1889.

Banister, William B., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War relieved from further duty at Fort Wingate, N. M., and will report in person to the commanding officer at Fort Grant, Ariz., for duty at that station, relieving Captain Arthur H. Taylor. Par. 4, S. O. 178, A. G. O., August 3, 1889.

Taylor, Arthur H., Captain and Assistant Surgeon, upon being relieved at Fort Grant, Ariz., will proceed to Fort Wingate, N. M., and report in person to the commanding officer thereof for duty at that post. Par. 4, S. O. 178, A. G. O., August 3, 1889.

## Medical Items.

The Late Dr. I. O. Lea.—At the last meeting of the Richmond County Medical Society the following resolutions were adopted:

"*Whereas*, The announcement through the public journals of recent date has informally brought the sudden and untimely death of our late esteemed associate, Dr. Isaac O. Lea, to the attention of this Society; therefore,

"*Resolved*, That the Medical Society of the County of Richmond recognized in the late Dr. Lea one of its oldest, ablest, and most experienced members; a physician who, for the past thirty-four years, had held a position in the medical profession of this county second to none of his compeers. A genial, warm-hearted, and clear-headed man, who, when questions of vital interest to the profession were under discussion before this Society, never failed to take a prominent part in its deliberations, and a conservative position in regard to its action thereupon; a gentleman always in all his relations to his associates, and a physician whose place among us it will be difficult to fill. Peace to his memory.

"*Resolved*, That this Society tender its profound sympathy in their bereavement to the several members of our deceased associate's family, and that the Secretary be ordered to forward a copy of these resolutions, properly engrossed, to the son of deceased, as the family representative, and provide that the same be published in the county papers and in the New York Medical Record and New York *Medical Journal*.

"*Committee:* F. E. Martendale, *Chairman;* F. U. Johnston; J. Walter Wood; May R. Owen, *Secretary*."

Associated Movements of the Eyeball.—At a recent meeting of the Vienna Medical Society, Dr. Fuchs showed a child which was the subject of several congenital malformations, one of which was apparent absence of the left eye, the skin of the forehead being continued directly to the cheek, and no signs of eyelashes being present. Through the skin, however, a body could be felt, which was the eyeball. The movements of this eye followed exactly those of the normal eye, and as the associated movements could not have been learned, Dr. Fuchs insisted that they must be congenital.

# The Medical Record

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## Original Articles.

### CHRONIC ENDARTERITIS AND ITS CLINICAL AND PATHOLOGICAL EFFECTS.[1]

(CHRONIC BRIGHT'S DISEASE.)


BY ARTHUR V. MEIGS, M.D.,

PHYSICIAN TO THE PENNSYLVANIA AND CHILDREN'S HOSPITALS, PHILADELPHIA, PA.


CHRONIC endarteritis is as much of a disease by itself—a separate entity—as are typhoid fever and measles. It is in the highest degree important that this fact should be recognized, and that the disease should be transferred from the position it now occupies among the obscure and little understood pathological curiosities, to the rank it is sure soon to claim for itself among the common and well-known complaints of every-day life. Until clinicians ordinarily are prepared to diagnosticate it during life and to announce it as a cause of death among their patients, its frequency of occurrence and importance will not be fully perceived. The name by which a disease is called is not an unimportant matter, for, if a name be accurately descriptive it is well received, and those who hear it easily comprehend what is meant, and thereby knowledge is rapidly diffused. The name "arterio-capillary fibrosis," proposed a good many years ago by Gull and Sutton, has never been commonly accepted, for the complaint cannot justly be called a fibrosis, and disease of the capillaries has never been proved to be an essential part of the process, and therefore, their description of the pathology was incorrect. The fact that our knowledge of the complaint is still most incomplete is no more reason for longer delaying to receive it among ordinarily recognized diseases than it would have been right for Bright to have withheld his great addition to the sum of pathological knowledge because there was still more to be learned in the same line of thought. Since there has come to me the feeling that I have more understanding of the pathology of the disease than formerly, the clinical management of cases often occasions a good deal of difficulty, by placing me in an awkward position with my patients when they or their friends ask: "What is the disease with which they are suffering?" To say Bright's disease in every case in which albumen and casts are found in the urine, would be very far from a correct expression of my understanding of the malady, for the instant conclusion of the public is that the patient has a disease which is as incurable as cancer, and one which will terminate in death almost as soon; whereas in many cases I *believe* that complete recovery, so far as the further progress of organic change is concerned, takes place, and I *know* that in many others the patients live in comfort for long periods of years. Such being the case, a name is needed by which to designate the disease, and it must be one from which the word kidney will be excluded; for it may be asserted that it is now known that the disease does not necessarily involve kidney change, and, if it does, that such change is only a very small part of the whole, and is subsidiary to something else. The pathological lesion which is always present, and which, so far as investigations made up to the present time show to be most widely diffused through the organs and tissues of the body, is an inflammatory thickening of the *intima* of the arteries and arterioles, and, whether the future will show this to be the primary and original change and the true cause or not, it is so widely diffused and so important that to call *it* the disease seems to me much more correct and descriptive than any other that has been proposed. Chronic endarteritis, a simple inflammation of the lining of the arteries, is the process by which the disease begins and thence extends to almost any degree throughout the arterial system, to some degree into the veins, and probably into the capillaries, as has been proved by the observations of others and my own.[1] This name should be modified to meet the needs of individual cases, as the pathological lesion attacks one or another or several organs, by saying—chronic pulmonary endarteritis, chronic cerebral endarteritis, chronic cardio-renal endarteritis, or other combinations as may be required to make the name accurately descriptive of the variations of one case from another.

To illustrate somewhat the clinical aspect of the subject, a few cases will be, as briefly as possible, given to show that the disease may be recognized during the life of the patient by physical and rational signs as well or better defined than are the diagnostic features of many well-known diseases. The cases will be grouped strictly according to their clinical features and the order of succession of symptoms, showing the disease to have taken possession of one or another or several important organs of the body:

CASE I.—A man about fifty years of age, after a year or two increasing very much in weight and becoming inactive, though previously very strong, was seized in the night with copious epistaxis, a thing he had not previously had for thirty years. Examination of the urine showed the presence of a trace of albumen and very numerous casts, and a month later he had cerebral hemorrhage of which he died in three days.

CASE II.—A man about sixty-seven years of age, who had always been typically strong and healthy, was taken with severe epistaxis several times within a day or two, a thing he had not had in fifty years. Physical examination of heart and lungs was negative, but there was some stiffening of the radial arteries. There were neither casts nor albumen in the urine, but slight œdema of the ankles was present. This observation was just made, and what shape the disease will take remains for the future to decide.

CASE III.—A woman about sixty-five years of age, very strong and well preserved, was seized with severe epistaxis; examination of the urine demonstrated the presence of albumen and casts. From this time she enjoyed quite good health, except that occasionally she would be vaguely out of sorts, when albumen and casts would be present in the urine, though at others absent, until she was seventy-seven years of age, when she had slight right facial paralysis, with partial aphasia and much distress and confusion of mind, of which she was perfectly conscious. The paralysis soon passed entirely away. After this there was gradually increasing loss of memory, though no perversion of mental function, and at seventy-nine years of age she was seized with sudden violent pain in the head, radiating down the back and into the limbs, particularly the lower ones; stupor came on, increasing to coma, and in a week she died.

CASE IV.—A woman about fifty-nine years of age, who had always been unusually strong, except that she was sub-

[1] Read before the College of Physicians of Philadelphia, June 5, 1889.

[1] THE MEDICAL RECORD, July 7, 1888, and Transactions of the College of Physicians, Philadelphia, vol. x., 1888.

ject to take cold and have quite violent cough, was seized with epistaxis which recurred several times within a week or two. Examination of the urine revealed the presence of a trace of albumen, and after careful search by two observers, one of them found one or two casts. Physical examination was negative, the lung and heart sounds being natural, though when she had cold and cough, bronchial râles would be present. From that time to the present she has been very nervous, complaining of many vague sensations, and having become visibly much older. She cannot walk freely and with comfort, as her steps are always short and uncertain and she tires easily. Now, two years later, there is a distinct and rather harsh aortic murmur which is systolic in time, and this, though she has never had any acute illness in the two years that have elapsed. A trace of albumen is constantly present in the urine, and occasionally a few casts.

CASE V.—A man of about sixty years of age, in the hospital ward, suffering with typical chronic Bright's disease—dropsy, albumen and casts in the urine, hydrothorax, and great hypertrophy of the heart—declared upon most careful cross-examination that the first deviation from health with which he had suffered was a disposition to take cold readily and have violent cough, and this for some time before any of the other conditions mentioned came upon him.

CASE VI.—A man about sixty-six years of age, was for a year or two subject to violent spasmodic cough with much expectoration; he had bronchitis and some enlargement of the heart, and œdema of the ankles, but neither albumen nor casts in the urine; five years later he is still living, but there has been in that time no opportunity to see or examine him.

CASE VII.—A man fifty-six years of age, previously healthy, except that he had at times passed gravel, had bronchitis and coryza with more oppression than the physical signs seemed to account for. Examination of the urine revealed the presence of albumen and casts. For four years subsequently albumen and casts were found from time to time upon examination, but since that period there has been no opportunity to test the urine. With the exception of much rheumatic stiffness and a tendency to take cold readily, he is still living and healthy at seventy-one years of age.

CASE VIII.—A man previously very healthy, had, when about sixty years of age, an attack of pneumonia of subacute character. Since that time he has never been the same, having lost his activity and strength, and now, at sixty-seven years of age, his condition is as follows: He has lost a good deal of weight; some of the arteries are rigid; he is very easily fatigued, and complains that his legs are almost paralyzed, so great an effort is it to him to walk, though to all appearances his gait is natural enough, except that it is rather shuffling. The heart-action is rapid and feeble. Neither albumen nor casts have been found in the urine.

CASE IX.—A woman, about sixty-five years of age, complained of not being well, though she was not confined to bed. Physical examination revealed dulness over one lung posteriorly and very harsh bronchial respiration, but no moist sounds or râles of any sort, and no expectoration —plainly a case of pneumonia. There was a slight mitral valve murmur, and the urine contained albumen and casts. This condition of affairs continued, and she gradually failed, though at no time having any urgent or alarming symptoms, and after four months died very quietly.

CASE X.—A lawyer, fifty-four years of age, in full practice, had an attack of acute catarrhal pneumonia. He was ill for several months, and during the whole time there were albumen and casts in the urine, and for between two and three years afterward. After that they disappeared, and eight years subsequent to the attack the urine was found to be healthy; since then there has been no opportunity to examine it, but the patient is still living, appearing to be healthy, and practising his profession at sixty-eight years of age.

CASE XI.—A man about sixty-six or -seven years of age, who had always been well, for a few months did not seem quite like himself in strength, and finally had some cough. Examination revealed the presence of subacute pneumonia, and albumen and casts in the urine, though there were not then nor subsequently any symptoms which could be attributed to faulty renal action. There was extreme atheroma, so much so that one radial pulse was almost extinguished and the vessel very hard. After a few weeks the lungs cleared and he got about again, though continuing very weak. In about three months there was a return of the pulmonary trouble, with cough and expectoration, and the breathing was quite rapid, though he declared he had no pain, or even oppression. In a few weeks he died, fading out very quietly, without violent or urgent symptoms of any kind.

CASE XII.—A man who is now about eighty-four years of age, and, for his age, quite active, has for the past fifteen years had very frequently albumen and casts in his urine, and during most of that time his breathing has been somewhat wheezing, with bronchial and asthmatic râles to be heard in the chest.

CASE XIII.—A man, who inherited gout, was, for ten or twelve years, subject to the arthritic form. When between fifty-seven and fifty-eight years of age he began to

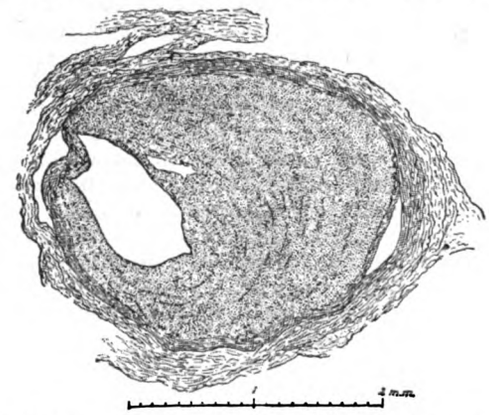

FIG. 1 (× 17 diameters) represents the large branch of the left coronary artery of the heart, which descends in the interventricular septum. The calibre of the vessel is almost closed by overgrowth of the intima, the opening which remains being represented toward the left in the picture. The other spaces were either the result of tearing in mounting, or were filled with some material which did not stain and was transparent. The muscular coat is represented by lines, and the adventitia by lighter ones outside; all the material inside these, represented by dots, is the proliferated intima. The part of the vessel represented here contained no calcareous material, though elsewhere there was abundant mineral deposit.

have some shortness of breath, and six months later had one night an attack of oppression so violent that it was thought he would die. Albumen and casts were found in

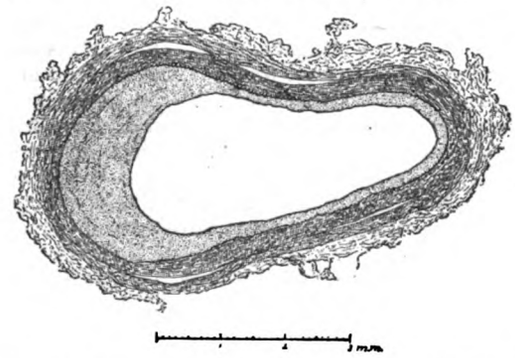

FIG. 2 (× 9 diameters) represents one of the first branches of the renal artery as it entered the hilus of the kidney. The great and irregular thickening of the intima is very marked, and the plicated membrane is distinctly visible around the greater part of the circuit forming the boundary between the intima and muscular coat.

the urine, and from this time he failed, and died at sixty years of age, having spent the last eight months of his life in the house in most shocking suffering from general dropsy and great oppression, and latterly quite insane (not delirious), being very suspicious and having marked delusions. The heart was greatly hypertrophied and the

arteries diseased (see Figs. 1 and 2), and once he had a slight uræmic convulsion.

CASE XIV.—A woman about sixty years of age had, for a good many months, been getting less and less able to walk. Examination revealed the presence of albumen and casts in the urine, stiffening of the mitral valve, and a tumor in the right hypochondrium, which was thought to be due to gall-stones in the bladder; this, however, she had had for a good many years, and it seemed quite latent so far as giving rise to any irritation was concerned. Many of the arteries were stiff. She walked very feebly and with a shuffling gait, hardly lifting the feet at all, though there was no true paralysis. The feebleness in walking increased, and the legs wasted until the calves could almost be spanned with the thumb and forefinger, and it was with difficulty that she could even cross a room. One day she fell upon the floor, simply losing her balance, and broke the neck of one femur, and never was able to walk again. After this, and before too, her intellectual powers became less and less, she lost memory to a great degree, and at last became mildly insane, having delusions. She failed gradually, and after two years died, without having had any violent or active symptoms beyond those mentioned, except that for some time before death there was marked general hyperæsthesia.

CASE XV.—A woman about sixty-two or -three years of age has, during the past six years, been subject to attacks of sharp fever which prostrate her very much and keep her from one or two days to a week in bed. At these times albumen and casts have very frequently been found in the urine. She has the signs of slight mitral valve stiffening. Except when suffering with an acute attack, she lives a very active life, doing a great deal of charitable work. During the last eight months she suffers with most persistent prickling sensations (pins and needles) in the hands and feet, and becomes easily fatigued, complaining that her legs are often so heavy that she can hardly lift or drag them along.

CASE XVI.—A man thirty-two years of age had, a little more than two years before his death, an attack of acute rheumatism, after which he had always shortness of

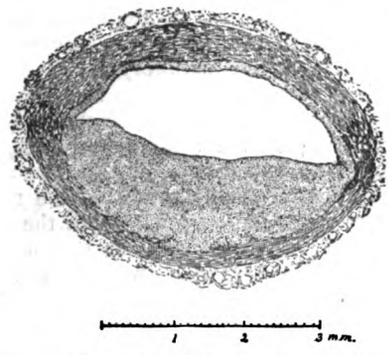


FIG. 3 (× 10 diameters) represents also the branch of the left coronary artery of the heart which descends in the interventricular septum. The enormous and irregular thickening of the intima is very evident; the plicated membrane is distinctly visible around half the circuit upon the side of least thickening; upon the same side also the muscular coat is nearly twice as thick as upon the other. There are two explanations for this irregularity of thickness of the muscular coat, the one, that it is hypertrophied upon the side on which it is thickest, the other, that upon the opposite side it has been partially destroyed by the invasion of disease.

breath and palpitation on exertion. During the last seven weeks of his life he had all the commonly accepted signs of Bright's disease—dropsy, albumen and casts in the urine, frequent micturition, cough with bloody expectoration, enormous hypertrophy of the heart with aortic regurgitation, great oppression and difficulty in breathing, violent vomiting, and pain in the belly. He died in great suffering. (See Fig. 3.)

CASE XVII.—A man who during all his life had been very strong, was taken at about sixty-three years of age with attacks of vertigo. Examination showed that his heart acted with the most extreme irregularity, but that there was no sign of valvular disease, and the urine contained neither albumen nor casts. These symptoms continued for about one year, but during the last year, he being now about sixty-five, the condition is much improved, as he seldom has any vertigo and the heart is no longer very irregular, though occasionally intermittent in its action. There is some stiffening of the arteries.

CASE XVIII.—An infant that was deserted by her mother when between two and three weeks of age, having already before this time lost weight and failed in general appearance and condition instead of gaining, was placed in an institution. The urine was never examined. In spite of all that could be done for her she soon presented the appearance of marasmus in a most typical manner, and at last, after having for a good while looked like an old, dried-up woman, she died at five months of age. (See Fig. 4.)

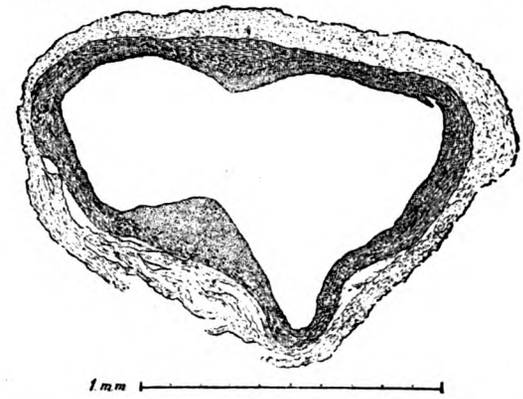


FIG. 4 (× 40 diameters). The infant was aged five months. This is the left coronary artery of the heart just after its origin in the aorta, from Case XVIII. The irregularity of thickening is very evident, and it seems equally positive that the process of disease belongs to the lining of the vessel, for the muscular coat is distinctly visible outside of the area of disease, and does not appear to be very much altered, except that in some places the process seems to have invaded it, as well as having produced masses inside the vessel. The plicated membrane is represented by two fine lines with a white space between them, and is visible around the entire circuit, except in the thickening which is represented in the lower part of the picture, where the process of disease has involved the muscular layers to a great extent.

These cases were selected because they presented, in a typical manner, the clinical symptoms it has been my desire to group together, so that anyone who will study the subject can readily and with precision make a diagnosis of the disease. In Cases XIII., XVI., and XVIII. autopsies were made, and the arteries figured in the plates were taken from them. I could have given a larger number in which autopsies were made and the lesion found, and such specimens are still in my possession, but the three only were introduced because they are fair types of the lesion, and the introduction of more would have made this paper too long, especially as my desire has been to deal now more with the diagnostic and prognostic features of the disease, and to touch upon the pathology, with which I have dealt more at length elsewhere,[1] only so much as was necessary to make plain my meaning, without going so deeply into pathological technicalities as to fatigue the ordinary practitioner. Only three of the cases (V., XVI., and XVIII.) were hospital patients, the rest being taken from the records of private practice, and were selected because they were under observation, in almost every instance, for long periods.

Cases I., III., VII., X., and XII., have already been alluded to in a paper which appeared in the "Transactions of the College of Physicians of Philadelphia," vol. vi., 1882, entitled "Clinical Observations on Albuminuria, Based upon a Study of Sixty-two Cases Seen in Private Practice."

One of the cases (XVIII.) may be thought to have been improperly placed in the group, as it was one of ordinary infantile wasting, or, if the name be not objectionable, marasmus, and it presented no unusual clinical features or symptoms; but it has so long seemed to me that there must be some parallelism between the disease under consideration in adults and some of the cases of infantile

[1] Transactions of the College of Physicians, Philadelphia, vol. x., 1888, and MEDICAL RECORD, July 7, 1888.

wasting, that, upon finding the pathological lesion so typically developed (see Fig. 4), I added the case to the group; where from the pathological standpoint certainly it justly belongs. Infants dying in this way grow to look so exactly like those who die of old age, that everyone who has written upon the subject has remarked upon the similarity of the appearances presented, though the two modes of death are the antipodes of human existence. Upon previous occasions I have published three papers on this subject, and it will be my endeavor not to unnecessarily repeat what will be found in them. They are as follows: "Clinical Observations on Albuminuria, Based upon a Study of Sixty-two Cases Seen in Private Practice," "Transactions of the College of Physicians, Philadelphia," vol. vi., 1882; "Cardiac Degenerations and Bright's Disease the Result of Changes in the Intima of the Arteries and Veins," *American Journal of the Medical Sciences*, June, 1888, and "A Study of the Arteries and Veins in Bright's Disease," "Transactions of the College of Physicians, Philadelphia," vol. x., 1888, and the MEDICAL RECORD, July 7, 1888.

*Symptoms and Diagnosis.*—The symptoms of this disease are of such a nature as, in marked cases at least, to make the diagnosis an easy matter. Perhaps these symptoms cannot be better elucidated than by passing them in review and trying to collect them together in such groups as they would seem most naturally to fall into, for to my mind certainly they present a clinical picture which is most striking and characteristic. Hemorrhage, whether it appear in the form of epistaxis or of cerebral apoplexy, is a marked symptom, and one which should always rouse the physician to investigate whether endarteritis has not taken possession of some part of the vascular system of the patient. Epistaxis was the earliest symptom in the first four cases narrated to draw attention to any deviation from health in the patients. Any externally distinguishable stiffening of the arteries, commonly called atheroma, is to my mind positive evidence of the presence of endarteritis, for I have yet to examine an atheromatous artery exhibiting diseased middle and external coats and a healthy intima. Many of the commonly received symptoms of kidney disease, though they do most certainly indicate that that organ has undergone grave pathological change, causing damage to a greater or less degree, and which will be permanent and irreparable, show much more, if the warning is but heeded, that extensive and often much more dangerous degenerations are taking place in other and perhaps far-away organs and tissues of the body. Occasionally, in patients affected in this way, there may be from time to time attacks of fever, and at such times albumen and casts may be found in the urine, as in Case XV.

The various manifestations of disturbance of cardiac function are among the most constant accompaniments of endarteritis in any form, and as far as present knowledge leads us to a comprehension of the subject, among the most important and of greatest gravity. It has long seemed to me the merest folly, in all cases of demonstrable cardiac valvular disease, to set it down as caused by rheumatism or chorea, or even to over-exertion of the body, as is so commonly done by clinicians; or, on the other hand, to believe that rheumatism commonly induces endocarditis and stops at that. Cases IV. and XVI. are types of what may happen in these respects, and as they afford positive evidence of what sometimes does take place, they are of more value than many negative cases, for it is an axiom in logic that it is hard to prove a negative. In Case IV. the patient had no cardiac valvular disease two years ago, now she has positive evidence of aortic stiffening, and yet during that time she has never had any acute attack of illness, but has most positive signs of endarterial inflammation—stiffening of the superficial arteries, albumen and casts in the urine, the valvular heart disease, great nervousness, with loss of muscular power, and general rapid aging in every respect—all coming on after a violent series of attacks of epistaxis which ushered in the loss of health. Most certainly the valve change was not due to rheumatism, or chorea, or over-exertion of the body in this case, for no one of these possible causes has obtained, and if it be not granted that the inflammation that certainly has existed in the lining of the arteries has crept slowly and silently into the heart, there to accomplish the same fell work that it has undoubtedly done in the vessels, no other more reasonable explanation, at any rate, can be offered. The history in Case XVI. seems equally positively to show that the effects of rheumatism by no means stop after having injured the endocardium and valves, for in that case, from the time of the acute attack, the patient was no longer well, and in about two years died of Bright's disease, with a typical development of the symptoms and pathological lesions (see Fig. 3). Looking at the case from my own standpoint, I feel quite satisfied that the man had rheumatic endocarditis, and at the same time or soon after, and as a continuation of the same process of disease, endarteritis, at first acute and then continuing in a chronic form after he seemed well, and that by this avenue and in this way almost all his organs became gradually involved. It would be easy to accept the old mode of explanation—rheumatic endocarditis, aortic regurgitation, cardiac hypertrophy, increased arterial tension, hypertrophy of the muscular coat of the arterioles, venous congestion of the kidneys, and thus Bright's disease secondary to the rheumatic heart disease. This, as an explanation, has long seemed to me more than merely theoretical—it is positively fanciful and visionary, and besides, it totally fails to explain many of the most evident and important of the pathological lesions. For the sake of argument, suppose we accept the hypothesis as affording an adequate explanation of the lesions so far as the heart and kidneys are concerned—how are the diseased conditions of the other organs to be explained? The lungs were much infiltrated with cellular overgrowth and their vessels were markedly thickened, especially the intima, the liver in a state of granular disorganization, the blood-vessels of the spleen very thick, and the aorta (though the man was only thirty-two years of age) very atheromatous, besides which the heart exhibited fibroid degeneration, and its arteries were in the last stages of degeneration, not hypertrophy (see Fig. 3). As an explanation for all this, is it not more easy to believe, and more consonant, too, with our knowledge of the migratory habits of inflammation, that an endarteritis, rheumatic in origin, acute at first, and then continuing as a chronic process, took possession of the lining of the arteries, and creeping from place to place by avenues so widely open as actually to invite invasion, thus gradually produced the result, than to distract our brains by trying to follow the intricacies of the older explanation, which is so complicated that from the time it was originally proposed it has always been looked upon with suspicion?

Œdema coming on without discoverable organic lesion sufficient to account for its presence, is often an indication of the existence of endarteritis (Case II.), and the same may be said of vertigo and irregular heart-action in some instances (Case XVII.).

The fact that symptoms connected with pulmonary disorder or actual lung diseases are often the earliest departures from health in those who afterward die of what has been called chronic Bright's disease, was one of the things which first caused me to feel any doubt of the sufficiency of that mode of explanation of the train of symptoms. Among the cases detailed this is plainly illustrated, for in eight at least, Cases V. to XII., inclusive, the mode of origin was an attack of pulmonary disease, and six of them certainly were cases that everyone would agree to call Bright's disease. This phase of the complaint may declare itself in the form of an attack of bronchitis, either by cough and expectoration without physical signs; or with a full development of bronchial rales, as the case may be; or catarrhal pneumonia, a disease which is capable of taking upon itself very many and varying aspects; or of asthma or emphysema; or, lastly,

there may be one of the forms of oppression, either sudden and violent, or coming on gradually and being very persistent, which are such common and well-known accompaniments of chronic disease of the kidney. These manifestations of pulmonary disorder may be acute and accompanied by great fever and general disturbance of the system, of such a character as to constitute an acute illness confining the patient to bed; or their onset may be so insidious as to attract little or no attention until a physician discovers that his patient is going about with a lung half solid from pneumonia (Cases IX. and XI.).

Functional disturbance of the liver is not uncommon, and the frequency with which the blood-vessels are thickened shows it to be likely that it has here, too, some causative relation. The spleen is incapable of inducing clinical symptoms of which at the present time we have knowledge, but it is one of the organs in which the pathological change of the vessels is most commonly found.

Symptoms manifesting a disordered state of the nervous system have long been well recognized as a common consequence of this disease, and of late several interesting and valuable communications upon the subject have appeared in different medical journals;[1] but the earliest attempt probably to arrive at a scientific understanding of their cause was made in the paper of Gull and Sutton.[2] In these symptoms of disordered nervous function do we find what affords perhaps the strongest confirmatory evidence that the disease has its origin in the vascular system, and at the same time the best proof that the old theory of origin is totally untenable. There has never even been an attempt made to explain the cerebral apoplexy and many other less formidable symptoms of nervous disorder that are so common, and clinically so fully recognized, except in a general way to allude to the many things that increased arterial tension is capable of effecting. The most common of these symptoms—as has already been somewhat brought out in the detail of cases given—are: cerebral apoplexy, general muscular weakness, with shuffling gait but without actual paralysis, and, in some instances, wasting of the muscles; change of temper and disposition, nervousness and decline of mental power, especially loss of memory, and even mild insanity; and in old people in the latter stages of the disease, most commonly after they have got so weak as to be confined to bed, a curious general hyperæsthesia which does not seem to be confined to the skin, for there is great pain caused by any movement.

Rheumatism and gout seem to be near relatives of endarteritis, or at least closely bound up with it. In one of the cases (Case XVI.) rheumatism, and in another (Case XIII.) gout, seemed to set fire to the train that finally led to the fatal result, and in both, as has already been alluded to, post-mortem examinations were made, and the lesions of chronic endarteritis in a typical state of development found (see Figs. 1, 2, and 3), and they both died with all the ordinarily recognized symptoms of chronic Bright's disease.

*Prognosis.*—In the clinical management of cases there is nothing which occasions more difficulty than the question of prognosis; for, to anyone who has had to deal much with the disease, one thing at any rate is very plain, that many cases that a few years ago would have been looked on as necessarily fatal, recover entirely, and others regain sufficient health to live for many years in comfort. It is wonderful how differently two cases, that at the outset seemed very closely parallel, may terminate, the one perhaps living for many years, and the other dying within a few months; this is exemplified in Cases XI. and XII. It does not seem possible to doubt that in Case X., for instance, entire recovery has taken place, though as albumen and casts were present in the urine, and the patient was in ill-health for more than two years, he certainly had chronic Bright's disease; and Case VII. is one in which, even if it cannot be positively asserted that complete recovery has occurred, at any rate there has been such a physical condition that for fourteen years the man has had a very enjoyable life. It seems possible to explain this, so far as the kidney is concerned, only by the belief that there was, at the time of the acute attack, a wedge-shaped spot or spots of inflammation with round-cell infiltration, the broad base of the wedge being toward the cortex, such as are so commonly seen in sections cut from the organs of persons dying in this stage of the disease, and that this has in the course of time healed, after having destroyed a greater or less number of tubules, and left in their place a small scar. Why it should so long have been supposed that the kidney was incapable of getting over the effects of an inflammatory process which is in no wise different from what occurs elsewhere, when it is perfectly well known that every other organ and tissue in the body can undergo regeneration to a greater or less degree, is a thing which is incomprehensible! In view of these facts we should, as physicians, be very slow to give a fatal prognosis, except in cases in which the morbid changes have progressed so far as to make our ground very certain. There is no combination so bad, and none which so fully seems to justify a very gloomy prognosis, as the presence of albumen and casts in the urine, with general dropsy and a heart evidently greatly enlarged, with much shortness of breath. Of these symptoms, to individualize them, there are none which have anything like the grave significance of enlargement of the heart with heaving impulse and constant shortness of breath; people with this combination seldom live more than a few months. Experience has long since taught me to believe that the presence or absence of the signs of valvular change are, comparatively speaking, of very secondary importance, and should have little influence in determining our decision of the probable duration of life, but that all our efforts should rather be turned to endeavor to form an estimate of the size of the heart and state of its walls.

*Treatment.*—It would make this paper much too long if any attempt was made elaborately to discuss the treatment; besides which, the question does not properly come under its scope as defined in the title. It need, therefore, only be said that the disease is so wide-spread in its results, and produces such varying effects as the morbid process takes possession of one or another part of the organism, that no special plan of treatment could be laid down which would cover all the different aspects it may present. Drugs which have seemed to me to be capable of effecting much good in certain phases of the complaint are carbonate of ammonia with small doses of digitalis—these should be given three or four times a day, and their use persisted in for long periods, often for as much as a year or more. The advantages of this mode of treatment were exemplified in Case XVII.

*Pathology.*—As was stated, the pathology of this disease has been discussed by me in papers already published, and time fails, nor would it perhaps be desirable, to go fully over the subject again. There are, however, a few points to which allusion must be made. To my mind it seems established as a fact and beyond the reach of doubt that many cases of chronic Bright's disease, if not most of them, are in truth cases of arterial disease; this was years ago asserted by Gull and Sutton; now, as a result of more recent investigation, I believe it to be established that endarterial inflammation is an important part of the disease. In reaching this conclusion one more step has been made in the direction of a final understanding of the process, though whether we are now near to this goal or still far away is a question which the future only can determine.

It would be easy, but of no present advantage, to speculate upon whether the endarterial inflammation is but an extension of disease from the blood, the living and moving tissue with which the lining of the arteries is always in contact, or whether the process starts in the

[1] Chronic Bright's Disease (Arterio-capillary Fibrosis) in its Relations to Insanity, by E. A. Christian, M.D. The Journal of the American Medical Association, March 23, 1889.

[2] On Changes in the Spinal Cord and its Vessels in Arterio-capillary Fibrosis. Trans. Path. Soc. London, vol. xxviii., 1887.

connective tissues, in which the arteries lie and of which they are in fact a part, or whether again the inflammation has its true origin in the arterial intima. The probability is that the future will show the arterial inflammation to be but an extension and consequence of some other pre-existing change. Outside of the assertion that the disease begins in the blood—and this is a theory which, though exceedingly plausible and not unlikely to be correct, is without a single fact of observation to establish its truth, so little understanding have we at the present time of the blood or its diseases—there has as yet been but one hypothesis offered to explain an earlier beginning of the disease. This hypothesis—for hypothesis only at present has it a right to be called—was mentioned in one of my earlier papers (loc. cit.), and is that which was in the first instance propounded by Drs. Da Costa and Longstreth,[1] and has been further elaborated by Dr. Da Costa in a later paper.[2] These authors, after making post-mortem investigations both macroscopic and microscopic, assert that there is constantly present a lesion of the renal nerve plexus, and Dr. Da Costa in his later paper states that lesions were also found in the cardiac ganglia in cases of Bright's disease. These investigations are of the highest scientific interest and exceedingly suggestive, for, from a purely theoretical point of view, it is fully as reasonable to suppose that the morbid process might begin in the nervous system as in the lining of the arteries or elsewhere. Investigation of the histological condition of the nerve-trunks and ganglia of the sympathetic system offers a field of the greatest interest, but at the same time great difficulty, for, if the truth be told, but little is really known at the present time of its ordinary condition in human adults—that is to say, few, if any, pathologists have been in the habit of examining the sympathetic so frequently as to be very familiar with its ordinary condition. Further study of this matter is much to be desired, but even if such investigation should demonstrate that a lesion of the sympathetic is as constantly present as the endarteritis, it would still remain an open question which, if either, was the causative lesion.

A point of great pathological significance, and to which allusion has already been made, is that valvular disease of the heart, as recognized by the ordinary clinical signs, may come on in the course of this disease without the patient's having at any time an acute attack of illness, and this is proved by what took place in Case IV., the woman developing valvular heart-lesion in the course of an attack of mild chronic Bright's disease lasting two years, during which time she had no severe illness or febrile attack—at the beginning being free from valve change, and now having its clinical evidences most unmistakably developed; showing, it seems to me, most positively that the endarterial inflammation has crept into the heart to twist and distort the valve.

It is a curious fact, and one worth recording, though at present I can offer no explanation nor draw any deductions from it, that in several different sorts of tissue removed by operation by surgeons as incurably diseased, I have found upon microscopic examination precisely the same endarterial inflammation and thickening, in some vessels so great as to entirely close their calibre, as found almost universally throughout the body in the cases of chronic endarteritis or chronic Bright's disease that have been described. These have been ovaries and Fallopian tubes removed by gynecologists, a vulvo-vaginal retention cyst, a cancerous uterus, and I think other tissues.

The relation of old age to this process of chronic endarteritis, or Bright's disease, I have discussed in former papers, and it does not seem possible longer to doubt that the conditions are in many respects parallel, if not identical, and a further confirmation of this view is afforded by the observation I have recorded, that a similar condition of the lining of arteries has been found in the heart of an infant dying of marasmus at five months of age (see Fig. 4). The arteries of young infants, just as all the rest of their tissues, present histological appearances which are different from those of adult life, and they may offer, therefore, perhaps an opportunity to learn the true origin of this process of atheroma, as it has been called, which could never be had from the study of adult tissues. The plicated membrane or fenestrated membrane of Henle presents itself in the arteries of young infants, when examined in cross-section, as a folded line somewhat thicker relatively than it is in the tissues of older persons, and in healthy vessels appears to be entirely structureless, containing no nuclei which will take stain; in the diseased artery from the heart it seems as if this had, owing to some irritation, become inflamed, and there are many proliferated nuclei in the membrane itself, or lying inside of it, producing swellings in the lining of the artery, just as is so commonly seen in the atheromatous processes of adult life (see Fig. 4). It is impossible to avoid drawing a parallel between these appearances and what is so well known and has been so much studied in inflammation of the cornea.

The drawings were made for me by Dr. B. A. Randall, and they admirably represent the appearances intended to be shown. As they were to be reproduced by photographic process, they were necessarily made somewhat diagrammatic, for many of the finer lines and shadings in a drawing cannot have justice done them by the photographic method as here applied.

It was my desire in this paper to deal more with the clinical than the pathological side of the subject—to try to formulate the symptoms so that a diagnosis may be more easily made; and last, though by no means least, it is high time to give the disease a name, so that it may be commonly recognized and admitted to our every-day classifications of diseases. To me it seems plain enough, in the present state of clinical and pathological knowledge, that the morbid process is "chronic endarteritis"—and so the disease should be named.

[1] Researches on the State of the Ganglionic Centres in Bright's Disease, American Journal of the Medical Sciences, July, 1880.

[2] The Middleton-Goldsmith Lecture on the Relation of the Diseases of the Kidney, especially the Bright's Diseases, to Diseases of the Heart, Medical News, May 5, 1888.

## COSTO-CHONDRAL LUXATION OF FIRST TO SIXTH RIBS, BACKWARD,

### With Partial Dislocation of Right Clavicle, Upward and Backward.

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H. H——, a recruit, aged twenty-six, who had always been perfectly healthy, enlisted in Boston, February 14, 1889. While en route for the recruiting depot, on February 16th, he was struck and injured by a passing passenger train in the following manner: With a companion standing at his left, he was on a narrow platform, backed closely against a wall of masonry, awaiting the passing of a train which came on to them suddenly and unawares while at this point.

The train approaching toward his left passed without touching either him or his companion, until the last coach, presumably a sleeper, came up to them. This coach was rocking or swaying from side to side, and they state it was wider than those which preceded it. At all events, as it passed it struck H——'s companion, a large, powerful man, on the left shoulder, threw him forward, and carried or rolled him around H—— in such a manner as to forcibly crowd and jam them both against the wall behind them. The force was thus expended in a rotary manner. After being thus rotated and jammed against the wall, they fell to the ground, and sustained no further injury.

They were conducted to a railway station about half a mile distant, H—— suffering but little at that time, while his companion was in acute pain, due, as was afterward ascertained, to fracture of the second and third ribs on the

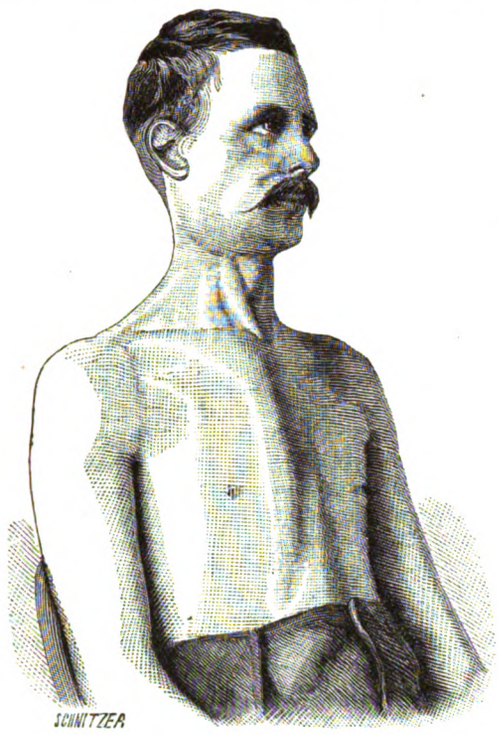
left side, with traumatism of the lung, as evidenced by the expectoration of blood. As his case is not further connected in any way with this article, suffice it to say he made a perfect recovery.

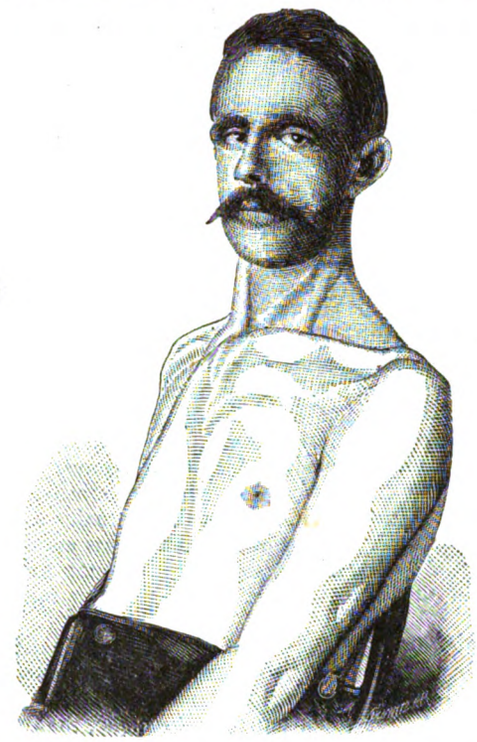
H—— was bruised about the head and face, and after a careless examination by a physician at the station, was informed he "would be all right in a few minutes."

Soon after, however, he began to experience much difficulty in breathing, and great pain in the right chest, this being his first intimation of any injury more serious than the bruises above referred to. The writer saw him about half an hour later, and his condition then was as follows:

There existed a condition of mild shock, with a feeble pulse, considerable pallor, and a temperature of 97°.

He complained of great difficulty in breathing, and pain in the right chest. Whiskey and aromatic spirits of ammonia was administered in repeated doses, and on his



recovering somewhat from the shock, careful examination elicited the following rare, and one might say unique, injury. On baring the chest, the eye of the observer was at once arrested by the striking asymmetry that was presented.

At the right of the sternum, which seemed to be tilted or turned on its long axis from left to right in consequence of the asymmetry, a linear protrusion was seen, which was easily ascertained to be caused by the over riding of the costal cartilages on their respective ribs.

The ends of the ribs were depressed, and the protruding chondral articulating surfaces were made out by palpation to form nearly a straight line from above, downward and outward. Careful examination disclosed the fact that all the ribs on the right side, from the first to the sixth inclusive, were dislocated backward from their chondral articulations. Further examination showed that the sternal end of the right clavicle was also partially dislocated upward and backward.

The supra-sternal notch was partially obliterated, the sternal end of the clavicle was quite mobile, seemed almost free from its sternal attachments, and could be easily reduced; though the reduction was but temporary, it soon resuming the former position, as evidenced by the fulness to the right and above the sternum and the partially obliterated supra-sternal notch. The lungs were in a condition of mild emphysema, but there was at no time any expectoration of blood.

All efforts to reduce the dislocated ribs proved futile. Both shoulders had been drawn backward, and the right arm rotated outward to put the pectoral muscle on the stretch; but owing to the sternal and chondral insertions of this muscle (as well as its costal) this proved ineffectual.

Extreme extension of the spine over a roll of pillows in the dorso-lumbar region was then tried.

An effort was made to reduce by forced inspiration, but it was impossible for the patient to properly execute this procedure, owing to the pain and extent of the injury.

All efforts to produce reduction having failed, this dressing was then applied. For the partial dislocation of the clavicle the right shoulder was drawn backward in such a manner as to retain the head of the bone in the proper position, and there held by means of broad adhesive strips applied much after the manner of Sayer's dressing for fracture of this bone. For the luxated ribs a wide, thick pad over the seat of injury, and broad adhesive strips were used encircling the chest, also passing from front to back over the right clavicle to give that bone additional support. The right-arm was then brought to the side of the chest after placing a generous pad of cotton wool in the axilla, and there fixedly retained by a broad roller passing around the whole chest. After the application of this dressing the patient expressed himself as feeling very comfortable, and in little or no pain.

On the following day there existed considerable dyspnœa, profuse frothy expectoration, and loud bronchial and tracheal râles. He was given an ounce of sulphate of magnesia, and ordered five grains of carbonate of ammonia in three drachms of liq. ammon. acetat. every two hours. His temperature was normal.

February 19th.—Was considerably easier; temperature morning and evening, 99°; respiration less difficult, but there still existed considerable pain in the chest. Pulse 90; was ordered half an ounce of whiskey to be given every four hours.

February 20th.—Was somewhat improved as to pain and expectoration. Morning and evening temperature 99.4°. He was given gr. $\frac{1}{4}$ of morphine at night.

February 21st.—Morning temperature, 100°. Evening, 100.2°. Was given three drachms of Rochelle salts and gr. $\frac{1}{6}$ of morphine in the evening.

On the 22d his temperature was again 100°, but never afterward reached that point.

Excepting a more or less continuous dyspnœa, the pa-

tient made no complaint of pain, more than a general uneasiness or soreness at the site of injury. On the 24th he became very short of breath, and loud bronchial and tracheal râles were again heard, and death seemed threatened by œdema of the lungs. He was ordered half-ounces of brandy in four ounces of milk, and five grains of carbonate of ammonia in half an ounce of liq. ammon. acetatis, alternately every two hours, with occasional doses of morphine for the restlessness.

This had the happy result of a speedy return to a comparatively normal respiratory action, and from this time on his progress toward convalescence was uninterrupted.

On March 10th the dressings were removed, and were found to have answered admirably for the purpose for which they were intended. The clavicle had been held well and properly in position, and it was seen bone callus had been freely thrown upward from the fractured first cartilage, but not in sufficient quantity to impede the motions of the clavicle to any degree.

At the present writing recovery is complete as far as repair is concerned. The motions of the arm seem to be in no manner impaired, and the sterno-clavicular articulation in normal condition, though the deformity resulting from the costo-chondral dislocation is marked, and is quite well shown by the cuts, from photographs recently taken.

The following measurements, taken since recovery, show to what extent the uninjured differs from the injured side of the chest.

At the recruiting rendezvous, the recruiting officer had taken measurements just on a level of the angle of the scapular, and gives them as 34 and 36½ inches respectively, as the circumference during forced expiration and forced inspiration. As these were taken hurriedly, and probably with not much accuracy, they cannot be depended upon. However, it is well to know these former measurements in relation to measurements taken since recovery, as the latter show but 32 and 34½ inches, respectively. It is hardly probable that such a difference actually existed, though undoubtedly the respiratory action was enough involved by the results of the injury, to account for considerable of the discrepancy between the two measurements.

Furthermore, from the spine to the middle of the sternum on the right side, it is now 16 inches forced expiration and 17 inches forced inspiration; and on the left over the same region, the scapular angle, the dimensions are respectively 16 and 17½ inches.

From these measurements, and by careful inspection and palpation, it is believed the over-riding of the cartilages is between ¼ and ½ an inch. From the middle of the sternum to the end of the protruding second cartilage is 1¾ inch; to the end of the fifth cartilage is 2⅝ inches.

As far as can be ascertained the union is osseous, as is usual in injuries to these cartilages.

While the cure is by no means a perfectly satisfactory one, viewing the remaining deformity, it is nevertheless most gratifying for the patient to have escaped with his life, after having been subjected to a compressive force necessary to have caused so extensive and serious an injury. It now gives him no inconvenience whatsoever, and were it not for the remaining deformity, nothing would remain to evidence so serious an injury ever having been received.

It is impossible, of course, to predict exactly what influence the impaired capacity of the right chest will have over the development of any possible pulmonary trouble in the future. It is also highly probable, that any work in the future which may call into active service the injured parts, such as heavy lifting or any prolonged strain, will undoubtedly be followed by evidences of weakness, and more or less loss of power to the parts implicated.

After a painstaking search, it is found that the literature of this injury is very meagre indeed, but few cases similar ever having been recorded, and still less in number ever having been accurately described. As there is no synovial membrane or articulation proper between the ribs and costal cartilage, but simply a fusion of the two, it is still a question as to whether this injury can be correctly termed "dislocation," or if it is in reality one of fracture. It is true that it is difficult to distinguish between a true fracture of the cartilage, an injury as rare as the one under consideration, and a separation of a rib from its cartilage.

In the case described in this article, it seems that the evidence is conclusive as to the character of the injury. The line of separation downward and outward, the measurements as compared to those taken on an osseous skeleton, and on the uninjured side, the age of the patient —all seem to, nay do, make it an undoubted case of separation of the ribs from the cartilages, call it luxation or fracture as we please.

Alfred Poland, in Holmes's "System of Surgery," vol. ii., p. 570, submits a table of four cases, the fourth of which, from the remarks here given, seems almost exactly similar to the case herein described. It is the famous case reported by Charles Bell, caused by pressure between a post and a carriage; it is said "the majority of the ribs were luxated on the cartilages," and any more definite details the writer has failed to find. In the writer's case six ribs on one side are luxated, caused by circumstances strikingly similar to Bell's, pressure by a passing railway coach against a wall.

It was not stated what treatment was used, or what result followed, in Bell's case. In the *Lancet*, 1882, vol. i., p. 432 (*Index Medicus*), a case is said to be reported by Mulvaney in which the left costal cartilages were dislocated backward (from ribs or sternum?), accompanied by a dislocation of the right clavicle forward.

The writer has not had access to that volume of the *Lancet*, and is uncertain whether it was a costo-chondral, or a chondro-sternal luxation, the title of the article, as given in the *Index Medicus*, not designating.

Careful investigation indicates that the cases recorded in Holmes's "Surgery" by Poland, above referred to, four in number, are the only authenticated cases of dislocations of the ribs upon their cartilages.

This conclusion is also reached in an admirable paper by A. W. Blodgett, in the *New York Medical Journal*, vol. xxxviii., 1883, pp. 34-62, in which are reported and discussed cases of injury to the cartilages, more especially, however, the chondro-sternal luxations. The case now reported by the writer swells the number to five, and should the case of Mulvaney prove to be costo-chondral instead of chondro-sternal, the number to six.

It is stated that the most constant symptom of this luxation is the prominence of the chondral end of the ribs in advance of their corresponding cartilages, while in the case under consideration the conditions are reversed.

Undoubtedly this injury is usually or always the result of violent compression of the chest.

Where the cartilages over-ride, compression would seem to probably have been lateral; where the ribs over-ride, it would seem to have been antero-posteriorly, or in the recorded cases upon the sternum.

DAVID'S ISLAND, N. Y. H., May, 1889.

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BLONDES.—The process of training for a "blonde" was in Venice, in the sixteenth century, a somewhat serious one. The aspirant took dragon's blood (*i.e.*, the resinous gum of the dragon-tree), ashes, egg-shells, sulphur, orange-peel, and sundry other trifles, all of which she boiled into association over a fire. With the essence of this mixture she assiduously bathed and sponged her hair. When her locks were deemed to be saturated sufficiently to dry them, she was wont to ascend to the roof of the house, and there sit in the sun, with a straw zone like the detached brim of a hat fastened round her head, to protect her from solar inconvenience. The result is said to have extracted admiration even from Moslem strangers.—*Medical Press.*

## AN EXPERIMENTAL STUDY OF THE BROWN-SÉQUARD THEORY.

By HENRY P. LOOMIS, M.D.,
NEW YORK.

The position which Dr. Brown-Séquard has held and still holds in the scientific world entitles any theory advanced by him to the respectful consideration of the profession. The recent one, relating to the use of injections of testicular liquid, was properly presented through reputable professional channels, and supported by experiments continued through a considerable period of time, and repeated and confirmed by other observers. Unfortunately, there has since been engrafted upon it much that has no shadow of foundation in any contention of the originator, and it has received a public and unprofessional notoriety which is not only to be regretted on general principles, but may possibly long prejudice us against any merit that it may actually possess. A brief review of his proposition is advisable.

The following is a fair statement of the physical effects of the treatment as applied by Dr. Brown-Séquard to himself:

From a condition of weakness, small appetite, and sleeplessness, he entered into one of comparative physical and mental strength. No record of the influence upon the appetite or capacity for sleep is given. He attributes these changes to an increase in the power of the nerve-centres, and notes, upon a cessation of the injections, and after a period of four weeks, during which no marked change occurred, a gradual reversion to his former state. He denies that the beneficial effect is due to any personal idiosyncrasy, as experiments conducted by Dr. Variot independently of himself, upon five elderly men, produced similar results.

The conclusions he draws are:

1. That the spermatic fluid is potent to increase the strength of the human organism, presumably in old men, not by structural change, but by nutritive modification.

2. That the alterations in muscular structure not essentially allied to old age may disappear, and a consequent recovery of former power by the tissues may supervene; and,

Finally, that the subject is well worthy of further experimental investigation.

In further definition of his position, Dr. Brown-Séquard specifically affirms his continued belief in the fatality and irreversibility of those nutritive actions which produce the changes of advancing age, and acknowledges that the facts presented are insufficient to solve the question of possible structural change in muscles, nerves, and nerve-centres.

I can see nothing in this to support the accusation that he claims to have discovered the source of perpetual youth, but rather a flat denial of any such contention, as though, in making his affirmation, he recognized the danger of misrepresentation and made an effort to provide against it. What he does claim is the discovery of certain physical changes wrought by the injection of the mixture; that it was apparently beneficial in its action with possibilities of becoming more so, and that the phenomena were important enough to invite careful study and analysis. At all events, my experiments have been made with such interpretation of the proposition, and the deductions given below are the present result.

Following Dr. Brown-Séquard's instruction, and always observing strict antiseptic precautions, I crushed in a mortar a small portion of the tissue of the testicle of a two-year-old ram, mingled with an equal quantity by bulk of distilled water.

The resultant mixture, after infiltration, disclosed under the microscope albuminous granules and crystals of spermine that are formed of a phosphate of an organic base, but no bacteria or spermatozoa. Thirty minims constituted a dose, and fresh material was prepared on each occasion. Not more than an hour was allowed to elapse between the death of the animal and the operation.

Within the last three weeks I have injected fluid of this character into a number of men, with the following results.

Class I. includes only such as were patients in Bellevue Hospital, who had no knowledge or suspicion of the character of the liquid, and took no medicine during the period of experimentation.

Case I.—Charles G——, aged fifty-six, shoemaker, had been under treatment in Bellevue Hospital for a month, suffering from emphysema, chronic bronchitis, and asthma. By treatment, his chronic bronchitis had been cured, but his asthmatic attacks still continued, coming on generally in the early evening. The patient was given four injections of thirty minims each of the fluid, at intervals of two days. A short time after the first injection he said "he felt as if he had taken a big dose of morphine;" that night he was not troubled with his asthma, for the first time in over a month. During the following day he felt much better, stronger, and with increased vitality. This improvement continued and increased up to the time of the fourth injection. After the fourth injection, although the patient complained of no pain at the seat of puncture, still for the twenty-four hours following the injection his general condition seemed to be much worse, his hands trembled, he complained of a burning sensation, and appeared as one who had suffered a severe nervous shock. At the expiration of the twenty-four hours his condition became substantially as it was preceding the last injection. The return to this condition took place about a week ago, since which time no injections have been administered. The seemingly beneficial effects have gradually worn off, accompanied by a slight return of his asthmatic attacks and loss of strength.

During the time of experimentation no change was noticed in his pulse, which ranged between 62 and 70. His respirations at the time of the first experiment were 24, after the first injection they remained about 20. The dynamometer moved by the flexors of the right forearm registered 59 as against 50 prior to the injections.

*Comments.*—During the period of experimentation the patient's asthma improved, his respirations became less frequent, his strength increased, and his general condition was better. The improvement in the patient has not been permanent.

Case II.—William D——, aged sixty-two, a tailor, sufferer from chronic diarrhœa, general debility and senility, while not actually on the sick list at the time of experimentation, had been in no particular materially benefited by treatment. He received four injections at intervals of three days. The day following the first injection he acknowledged that he "felt better," but attributed his condition to an improvement in his diarrhœa. After the second and third injections he affirmed that he "felt much better, livelier, and clearer in his head;" "that he was much better able to go about his work."

His pulse during the period of experimentation remained at 64, respiration at 20, and strength, as registered by the dynamometer, at 60.

*Comments.*—The patient's statements of his improved condition were fully within the apparent facts.

Case III.—Matthew M——, aged seventy-seven, a sufferer from senility, was under special treatment for diarrhœa, which had lasted for about three weeks and had been controlled by appropriate remedies. He received three injections at intervals of two days, the first being given, as in other cases, at about 5 P.M. By the patient's own statement, his improvement began to be noticeable on the morning following the first injection. His words in describing his condition were, that he "felt much livelier and better," and the testimony of the attendant physicians and nurses was to the same effect. The estimate of the improvement in this case is much more emphatic than in the others. The pulse was variable both before and during the period of experimentation, marked increase, however, being observed during the twelve hours immediately following the injection. Res-

piration, which prior to the injection had averaged 16, then rose to 20. The registration on the dynamometer showed an increase from 38 to 42.

*Comments.*—I regarded this case as the one best calculated to test the efficacy of the fluid. The improvement, while in no way sudden or extraordinary, has been steady and decided. As insufficient time has elapsed since the last injection, it is premature to estimate the permanency of the improvement.

CASE IV.—G. D——, aged fifty-two, a sufferer from chronic rheumatism, received a single injection without general or specific result.

CASE V.—John C——, aged fifty-seven, seaman, had been suffering for three weeks from the exacerbation of a chronic rheumatism. He received two injections of 30 minims each with an interval of forty-eight hours. Not only was no improvement noticed, but rather an increase of symptoms.

Class II. embraces, with one exception, private cases. All were men of intelligence and education, and were familiar with the theory and method of treatment.

CASE VI.—L. K——, aged forty-eight, with a neurotic family history, suffered from an entire loss of sexual appetite, due no doubt to excesses in early life. He complained of loss of memory, insomnia, and despondency. He had had no erection since last March. Two injections of 30 minims each, with an interval of three days, were given him without result.

CASE VII.—George D——, aged thirty-five, was a sufferer from no organic difficulty, but was a typical nervous case, and had consulted many physicians with no improvement, as he thought. He was confident this remedy would effect his permanent cure. He received four injections at intervals of two days, with a marked increase of nervousness. He seemed to be made worse by the treatment.

CASE VIII.—Doctor M——, aged fifty-seven, suffered for the past five years from constant anæmic headache; with this exception he was perfectly well. As he had obtained no relief from medication, he requested me to give him an injection. He derived no appreciable benefit from the injection, and his headache was not mitigated.

CASE IX.—J. A. R——, aged thirty-six, a sufferer from what his physician diagnosed as chronic muscular rheumatism, obtained no improvement from two injections.

CASE X.—X. Y——, aged forty-seven, had suffered for five years from a peculiar nervous disease which had been diagnosed, by some specialists in Europe and this country, as locomotor ataxia. As this gentleman has education and exceptional ability, and is free from all prejudice in regard to the treatment, I give his own description of the effect of the first injection, which was administered at 6 P.M. "I noticed no sensation," he said, "until 7.15 the same evening. Then a comfortable feeling came over me, as if I had taken a glass of champagne; in a word, I felt rested. On retiring, at nine o'clock, I noticed some soreness in my leg, in the region of the puncture. From this time until 2 A.M. I suffered from most peculiar sensations. I was very restless and nervous; my body felt as if it were burning up, my mouth was parched, and my face flushed. My wife, thinking I must have a high fever, took my temperature, but found it normal. At this time I was wide awake and my mind active. Most of the time I was unable to control the shaking of my hands. I slept from two o'clock until eight, when I awoke somewhat refreshed, and found that the soreness had left my leg. All the forenoon I felt seedy, but by afternoon I began to improve, and by evening I felt better than I had for months, stronger, and with more ambition. This effect has continued up to the present time (two days).

This patient is now under treatment, and has had four injections, but I can see no improvement in his disease. His gain, if any, is purely subjective.

I have received a number of reports of cases from physicians to whom I have furnished the fluid. Some of them state that there has been a wonderful improvement in their subjects. As, however, these cases have not fallen under my personal observation, I refrain from noting them. My observations upon the cases are as follows:

I. *a.* I can see no reason to anticipate danger of septicæmia from the use of the fluid prepared under proper antiseptic precautions, provided the material used be absolutely fresh and free from all trace of disease. My attention was called to the necessity for the closest scrutiny in this last particular, by having discovered, in specimens taken from an apparently healthy ram, a solitary tubercle in which were demonstrated tubercle bacilli. In none of the cases have I seen any bad results, and only in a few has there been a moderate amount of pain at the point of injection, lasting from six to eight hours.

*b.* I can explain the singular nervous affection apparent in certain of the cases only on the theory that upon the nerve-centres the mixture exerts some powerful but as yet unexplained influence, which, even if its use be eventually proved beneficial in some cases, must render its employment in others a matter of caution. It is far from safe to say and proceed upon the belief that "if it does no good it can do no harm."

II. *a.* I seem to see in almost all the cases of *old men* subjected to the experiment an increase in strength and vitality which certainly persists for several days. I have noticed nothing in the least resembling the secondary depression which so commonly follows the use of ordinary stimulants.

*b.* When used in cases of actual disease no modification of pathological conditions or processes has been recognizable.

I therefore conclude:

1. That the injection of this testicular mixture does, as claimed, produce "nutritive modification" in the tissues of elderly men, due probably to the stimulation of the nerve-centres.

2. As far as my own experiments are concerned, sufficient time has not yet elapsed to justify an affirmation or denial of the correctness of Dr. Brown-Séquard's second conclusion.

3. There is in the theory sufficient ground for further experimentation.

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## CONTRIBUTIONS TO THE SUBJECT OF TUMORS OF THE ORBIT AND NEIGHBORING CAVITIES.[1]

BY CHARLES STEDMAN BULL, M.D.,

PROFESSOR OF OPHTHALMOLOGY IN THE UNIVERSITY OF THE CITY OF NEW YORK; SURGEON TO THE NEW YORK EYE INFIRMARY; CONSULTING OPHTHALMIC SURGEON TO ST. LUKE'S HOSPITAL.

CASE I. *Aaeno-sarcoma of the Lachrymal Gland.*—The patient, George G——, aged thirty-five, presented himself to me for the first time on May 30, 1887, with the following history: A little more than a year before he had noticed a swelling or tumor, as he thought, of the outer angle of the left upper lid; but after a while he discovered that the swelling was not in the lid, but was a tumor beneath the lid, and on the outer aspect of the left eye. There was at first no interference with the movements either of the lid or globe, and no sense of discomfort; but the tumor gradually increased in size and began to cause the patient some annoyance. It had never been painful nor especially sensitive on pressure, nor was there any interference with the vision. When I saw him, the outer end of the left upper lid was somewhat bulging, and the growth was seen to be applied closely to the eyeball on the upper, outer, and lower quadrants, and presented in the interpalpebral opening. On everting both lids, and making the patient look toward the extreme right, the growth was seen to extend backward and upward into the orbit, and to be connected with a glandular tumor at

[1] Read before the American Ophthalmological Society, at its Twenty-fifth Annual Meeting, New London, July 17, 1889.

the site of the lachrymal gland. The tumor was distinctly lobular, reddish in color, somewhat firm in character, and perfectly movable beneath the ocular conjunctiva and upon the globe. The motility of the eye was slightly interfered with upward and outward. The media and fundus were normal, and vision was $\frac{20}{20}+$. The ocular and palpebral conjunctiva was somewhat injected, but there was no secretion of any kind. A diagnosis was made of tumor of the lachrymal gland, and it was decided to attempt its removal. The patient was etherized, and the upper lid pulled downward as far as possible over the lower lid. The eyebrow was then closely shaved, and an incision was made from the middle of the eyebrow outward, following the line of the supra-orbital margin for the distance of an inch and a half, through the skin and subcutaneous tissue. The tarso-orbital fascia was then divided, care being taken not to wound the tendon of the levator palpebræ muscle. As soon as the orbital cavity was opened and some of the orbital fat pushed aside, the tumor was seen to involve the lachrymal gland. By the aid of the handle of the scalpel and a pair of blunt-pointed scissors the adhesions between the growth and the upper and outer walls of the orbit were carefully divided, no very firm points of adhesion being found. The attachments of the tumor to the eyeball were then easily separated, care being taken to dissect off as much of the ocular conjunctiva from the external face of the tumor as was possible, and the enlarged gland was then removed entire. There was considerable hemorrhage from the divided vessels, which, however, soon ceased, and the cavity was then washed out carefully with a solution of mercuric corrosive chloride (1–1,000). Six deep sutures were then introduced through the entire thickness of the lips of the wound, including the tarso-orbital fascia, and as many more through the external lips of the wound as were necessary to bring the edges into thorough coaptation. Sublimate dressings and a bandage were then applied. The wound healed by first intention, and there was no suppuration, and in three weeks all signs of tumor or operation had disappeared. The tumor was hardened in Müller's fluid and alcohol, and numerous sections were made and carefully stained for future study. These showed that the degeneration had begun near the centre of the gland, for here nearly all traces of the normal glandular structure were absent. It was impossible, however, to determine whether the abnormal growth began in the ependyma of the glandular tubules or in the connective tissue around them. If it be true, as Berlin thinks, that all adenoid tumors belong to the common type of cylindroma, then the tumor in question was a cylindroma. Away from the centre, and near the periphery of the gland, there were found many tubules in a healthy state, but even in the midst of these normal tubules were others in a distinct condition of hypertrophy, with numerous small round cells. In all parts of the growth, the connective-tissue framework was crowded with small round cells, and as the sections approached the centre of the gland these cells became more and more numerous, until all the glandular elements were crowded out and disappeared, and nothing was visible but a closely pressed mass of small round cells in place of glandular tissue. After a careful examination had been made of the various sections, the patient was told that the growth would in all probability return, and that he must report at intervals for examination. The tumor was removed in June, 1887, and the patient has been seen at intervals of two or three months ever since, the last time in March of this year. At this visit nothing abnormal was discovered in the orbit or eyelids. I have termed the growth an adeno-sarcoma of the lachrymal gland, as being most in consonance with the results of the microscopic examination.

CASE II. *Abscess of the Ethmoid Cells, Frontal Sinus, and Orbit.*—The patient, a gentleman, aged forty-six, consulted me on April 16, 1888, with the following history: He had been long subject to naso-pharyngeal catarrh, with frequent acute exacerbations and profuse discharge, and he had been under treatment of one kind or another for many years. About Christmas of 1887 he first noticed a swelling at the upper and inner angle of the right orbit, though he had had a constant dull pain in this vicinity for more than a year. The swelling continued to slowly increase, without much change in the subjective symptoms, until March, when he began to see double. At this time his headache was constant, and being alarmed he consulted his family physician, who made an examination and discovered that with either eye alone his vision was perfect, but that the diplopia, and consequent disturbance of vision, returned when both eyes were open.

Tincture of iodine was painted over the swelling of the lid, and potassium iodide was given internally, but without producing any beneficial effect, and he was finally advised to consult me, which he did on April 16, 1888. I found a rather marked protrusion of the inner half of the right upper lid, and a dislocation of the right eye outward and downward, and a little forward. The motility of the eye inward and upward was somewhat limited. The lids were normal in action. Vision was $\frac{20}{20}+$, and the media, fundus, and field of vision were perfectly normal in every respect. The tumor or swelling was smooth, elastic, irregularly ovoid in shape, and extended backward some distance into the orbit. It occupied the supero-internal angle and inner wall of the orbit. It was painless on pressure, and showed no signs of any inflammatory process. There was a profuse, almost purulent, discharge from the right nostril. A hypodermic needle was introduced through the skin of the lid, and pus was withdrawn from the cavity. A diagnosis was made of abscess of the frontal sinus, which had probably broken through the bony roof of the orbit, and involved the latter cavity. The patient was told that nothing but operative interference would be of any use, and he consented at once to have the operation done. On April 18th the right eyebrow was shaved, and a long incision was made through all the tissues down to the bone, beginning at a point at the junction of the middle and outer thirds of the eyebrow, and running parallel to, and just above, the supra-orbital margin, across the root of the nose, to the inner end of the eyebrow on the opposite side. As soon as the knife penetrated the region of the swelling it was followed by a flow of pus, amounting to about half an ounce, as nearly as could be calculated. As soon as the incision was completed the knife was withdrawn and the finger introduced. A large irregular hole was felt just at the inner end of the supra-orbital margin, extending into the frontal sinus, and involving part of the lachrymal bone. Pressure on the closed lids backward caused pus to run from the incision, and the finger pushed into the orbital cavity discovered that the abscess extended backward into the orbit, and that there was an opening in the orbital plate of the ethmoid bone large enough to admit the end of the middle finger. The walls of the frontal sinus were distended in all directions, and were rough and covered with numerous osteophytes; but the bony septum between the frontal sinuses did not appear to be perforated. The frontal sinus was first washed out with a sublimate solution (1–500), bringing away much pus and small particles of bone, and after a brief period the fluid was observed to drop from the right nostril, showing that a communication existed between the frontal sinus and the superior nasal meatus on this side. The same solution was then used to wash out the cavity of the abscess in the orbit, and also the ethmoid cells, and this also brought away a large quantity of pus. After the entire cavity had been cleansed thoroughly, a rubber drainage-tube was introduced into the frontal sinus, and the rest of the external wound kept open by pledgets of sublimated cotton, and the patient was made to lie on his right side. The lids were kept closed, and covered by a piece of gold-beater's skin, in order to prevent, as far as possible, any entrance of the purulent discharge into the conjunctival cul-de-sac. The cavity was washed out twice a day with

the sublimate solution, until the discharge of pus grew very scanty, and then the irrigation was practised once a day until all purulent discharge had ceased. The drainage-tube was finally removed at the end of the third week, at which time all external swelling of the surrounding parts had disappeared, the flow of pus was reduced to a few drops, the eyeball had returned to its normal position, and the diplopia had vanished. At the end of the third month the cavity in the orbit had closed, and shortly afterward the external wound along the orbital margin filled up with granulations, which first appeared from the edges of the opening into the frontal sinus, and gradually the external wound healed under a scab. At the end of the fourth month close observation was needed to discover that an operation had been performed. For about two months previously systematic treatment of the nasal cavities had been carried out, with the result of checking all discharge from the nostrils, and converting the patient from the state of a mouth-breather to a condition of normal respiration. The patient has not been troubled since. This is one of quite a number of cases operated upon in a similar manner, which have all recovered in a comparatively short time, and without any bad results.

CASE III. *Tumor of the Maxillary Antrum, Nasal Fossæ, Ethmoid Cells, Orbit, and Cranial Cavity; Operation for its removal; Death.* — The patient, James M——, aged fifty-one, first consulted me on November 11, 1887, and gave the following history: He had always been subject to profuse naso-pharyngeal catarrh, which had been treated in an intermittent and spasmodic manner for a number of years. In February, 1887, he began to suffer from shooting-pains in the left side of the nose, and along the course of the left supra-orbital and infra-orbital nerves, and as the weeks elapsed this pain increased in severity, and began to be localized in the left orbit. In April there appeared a profuse purulent discharge from the left nostril, and from the pharynx. The pain continued to increase in severity, and early in August the left eye began to protrude from the orbit. The ocular conjunctiva gradually became injected, and the eyelids, particularly the lower lid, became swollen. He at this time consulted Dr. E. G. Janeway, of New York, who after a careful examination told him that he had a tumor in the left orbit. The symptoms gradually grew worse, and early in October the exophthalmus was so marked that he could scarcely close the lids over the eyeball, and his vision began to be impaired. On November 11th, when I first saw him, his condition was as follows: The left eye protruded forward, outward, and downward, and the lids could not be closed over it. The cornea was clear. The lower lid was everted and partially concealed beneath the protruding globe. The ocular conjunctiva was markedly congested and the chemosis very extensive. The eye was absolutely immovable. Vision was $\frac{20}{100}$, that of the other eye being normal. The ophthalmoscope showed a well-marked condition of "choked disc," with hemorrhages. A protrusion of the growth could be seen anteriorly at the inner angle of the orbit, and an examination with the finger demonstrated that the tumor could be felt at the inner canthus, and backward along the inner wall and floor of the orbit. A careful examination of the anterior and posterior nares showed that the left inferior nasal meatus was entirely occluded by a growth, and it was thought that the latter also extended into the middle nasal meatus. The occlusion of the inferior meatus was caused by the bones being pushed down from above by the growth, this being the opinion of both Drs. Lefferts and Asch, who kindly examined the case with me. The patient was then sent for a further examination to Dr. William T. Bull, of this city, who diagnosed a tumor of the antrum, nasal meatus, and orbit, and advised non-interference, by reason of the probability that the growth involved the deep bones of the face.

The pain was now so severe that the patient had to be kept constantly under the influence of opiates. By December 3d the eye had become entirely blind, and the protrusion forward of the growth was very marked. It was decided to attempt the partial removal of the tumor, as a means of affording the patient some relief from his suffering. On December 5th the eye was enucleated, under ether, with considerable difficulty, and then complete exenteration of the contents of the orbit was begun. The conjunctiva was divided along the margin of the lids, and the entire contents of the orbit were removed by knife and scissors. The bony floor of the orbit was entirely absent as far back as the apex of the orbit, except a narrow rim along the anterior margin. The maxillary antrum was filled with the growth, and was entirely cleaned out with forceps and curette. The opening from the antrum into the nasal meatus was found enormously enlarged, and the left side of the nose was filled with the growth. Part of the lachrymal bone and the entire orbital plate of the ethmoid were gone, and the ethmoid cells were filled with the growth. There was a large ragged opening through the roof of the orbit into the anterior fossa of the skull, and through this the growth also extended into the cranial cavity. All operative procedures were then stopped, the cavities of the orbit, maxillary sinus, and nasal meatus were carefully washed out with a solution of mercuric bichloride (1–2,000), and antiseptic dressings applied. There was no unusual amount of blood lost during the operation. On recovering from the effects of the anæsthetic the patient complained of great pain in the head, which was relieved by morphia. He remained fairly comfortable until about 9.30 P.M. of December 6th, when his breathing suddenly became stertorous and he was found comatose. In a few minutes the respiration became Cheyne-Stokes in character, but this yielded to hypodermic injections of strychnine. The patient died quietly, in a comatose state, at 7 A.M. of December 7th, with regular respiration. Unfortunately no autopsy could be obtained.

The tumor was carefully hardened in Müller's fluid, for about two months, and numerous sections were then made through various parts of the growth, special care being devoted to the growth removed from the maxillary sinus. At first there was considerable difficulty experienced in classifying the tumor, as the sections seemed to be made up of nothing but cells. Of these there were all kinds—round, ovoid, stellate, and fusiform—the small round cells largely predominating. There was a very scanty fibrillar, intercellular substance, and the general consistency of the growth at the time of its removal was decidedly soft or medullary. This was particularly true of the mass removed from the maxillary antrum. The growth in the orbit and ethmoid cells was decidedly myxo-sarcomatous in character, and a careful study of sections from all parts of the tumor finally led me to class it as a myxo-sarcoma. In some places, in both the orbital and maxillary growths, there were small cavities, filled in the fresh state with a yellowish fluid, which gave to the part the character of a cysto-sarcoma. In all probability the disease started in the maxillary antrum, possibly as the result of long-continued irritation and inflammation extending from the chronic naso-pharyngitis, and thence growing in every direction—inward to the middle and superior nasal meatus, and thence into the cavity of the ethmoid bone, and upward through the orbital plate of the maxillary bone into the orbit. The absorption of a part of the roof of the orbit, and the extension of the growth into the anterior fossa of the skull, was probably the latest stage of the disease. The direction of the growth inward would of course make the extension outward through the opening of the orbit a slow and protracted process, as was proved in this case, the exophthalmus having been one of the later symptoms. Still, it is the general opinion among surgeons that growths originating in cavities near the orbit, and involving the latter secondarily, are generally of very rapid growth. In the case in question all the subjective symptoms occurred within ten months of the death of the patient.

# Clinical Department.

## REPORT OF SIXTEEN CASES OF TYPHOID FEVER, WITH REMARKS.

By O. C. TARBOX, M.D.,

PRINCETON, MINN.

The search for a specific treatment for typhoid fever is not new. Indeed, ever since the disease was first described, and theories advanced concerning its pathology, the aim has been to find a specific for this long-continued, and oftentimes fatal disease. Much has been written, and many remedies advanced as curative.

Just now, when antisepsis governs medical and surgical practice so largely, I desire to report these cases occurring in my private practice as a further testimony to the value of internal antisepsis in the treatment of this fever. While an interne in Randall's Island Hospital, New York City, my attention was called to the treatment originally advocated by Bartholow, viz., by the use of carbolic acid and tincture of iodine. One or two cases thus treated in that institution recovered, but it was not until engaged in private practice that I made such use of the treatment that I could collect statistics of any value.

These cases, sixteen in number, were all treated by the following prescription:

℞. Acidi carbolici..... ♏ xxiv.
Tr. iodinii ..... ♏ xlviij.
Mucil. acaciæ..... ʒ iv.

Of this preparation one teaspoonful, according to age, was given every two or three hours in a little lemonade or ice-water. Little else was given, save antipyrin when the fever ran too high, and a strict milk-diet. Of these cases thus treated, one ended fatally, a girl aged fourteen, who, after having been sick two weeks, was brought to my office from her home, seven miles in the country, an exposure that hastened the fatal issue.

The following are some of the points worth noting. Eight patients had a temperature reaching or exceeding 104° F., two had hemorrhage of the bowels (none fatal), and three had one or more relapses each. One case was complicated by facial erysipelas, occurring in the third week, one by suppurative synovitis of the left knee-joint, and one took by mistake three-fourths of a teaspoonful of carbolic acid (ninety-five per cent.)—a druggist's blunder. This latter case was a boy, aged twelve, who had safely passed through four weeks of fever, and was convalescing nicely when the acid was given to him. His mother's presence of mind in administering some glycerine, milk, and whites of eggs, coupled with a hypodermic injection of apomorphia given twenty minutes afterward by myself, saved his life, though only after a long relapse of fever.

The case of another boy, of eleven years, deserves especial mention from the severity of the disease. The primary fever ran twenty-five days in this case, following which, with a few days' intermission only, were two relapses, one of twenty, and one sixteen days, making a total of sixty-one days of fever. He recovered and with no sequelæ.

Finally, I offer the following propositions as suggesting themselves to me from the above experience, and in the hope that they may be of use to others.

1. It is most rational to produce intestinal antisepsis in this fever, knowing as we do its specific cause to be a germ, and in carbolic acid and tincture of iodine we have prompt and safe germicides. The medicines are quite easily borne by the stomach, if given in lemonade or lemon sirup, and especially after taking some nourishment.

2. By such antiseptic treatment, if given early, I believe the disease is shortened, and the severity lessened. With the exception of the case mentioned above, a rare one in point of severity, all of my cases ran a much shorter course than under former plans of treatment. There was a noticeable absence of those nervous symptoms so common to typhoid fever in nearly all my cases, such as delirium, *subsultus*, carphologia, coma-vigil, and the like. Not one of the sixteen cases had active delirium, requiring restraint.

Constipation was the rule in about every case. Although I have not statistics on that point, I can remember no case in which I was obliged to check or moderate a diarrhœa; oftener mild cathartics or enemas were necessary.

3. The disease is more easily handled, and the danger to others is less by this plan of treatment. In all cases I used, of course, every precaution in that respect by ventilation, frequent change of clothing, and thorough disinfection of the discharges with copperas and chloride of lime, and it has seemed to me I was most fortunate in confining the disease in every instance to the patient, none others taking it. This is an all-important point, and I believe the result was due largely to the intestinal antisepsis. Fortunate we shall be if we shall succeed in preventing the spread of enteric fever in a majority of cases. The above report tends to show, in my opinion, that it can be done.

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## LIVING TWINS WITH ONE BODY.

Dr. G. M. Collins, of Tipton, Ind., writes: "On Monday night, June 24, 1889, was born to Mr. and Mrs. J——, near Groomsville, Tipton County, Ind., a pair of twin girls with one body. They unite in centre of the body, having but one umbilicus. There are two legs on either side of body. The two children are well formed, and at this writing have every appearance of living. There is a well-formed vagina and anus on either side, between each pair of legs. The two anuses are about one and a half inch apart. Each child has a separate circulation and organism. One will sleep while the other is awake. One leg on each side of the body belongs to each child, that is the same as if two children were lying on their backs with their coccyges in contact, except that the legs are on the sides. At birth their weight was twelve and one-half pounds, and they were twenty-two and one-half inches in length. The bowels and kidneys perform their functions independently. At first the children could bend up and both nurse at once, but now they are developing and do not bend so readily, and one nurses at a time.

"The spinal column is straight, and the two seem to be united at the end of each body. The children are bright and lively, have a fine head of hair and fine features. Their mother is of slender build, and weighs about one hundred pounds."

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## A PEA IN THE AUDITORY CANAL FOR THIRTY-TWO YEARS.

Dr. W. F. Morgan, of Leavenworth, Kan., reports the following case: Mrs. William H——, German, aged forty, called on July 17, 1889, complaining of her right ear, stating that when eight years old she inserted a pea into each ear; that her mother removed the one in her left ear, but was unsuccessful in her attempts to remove the other, which she believed to be still in the ear. The patient was suffering from vertigo, nausea, and "noises," in her right ear. The watch could be heard only when in contact with the auricle. Hearing of left ear normal. After repeated irrigations, on three successive days, with warm rain-water, and the removal of much hardened cerumen, at the time of her third visit the pea was removed by a Sims uterine tenaculum. It was nearly perfect in form, but very black in color, after its sojourn of thirty-two years in the canal. The watch can now be heard at two feet, and all abnormal sensations have disappeared, except slight soreness of the ear, which will probably very soon entirely subside.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## THE SO-CALLED ELIXIR OF YOUTH AND ITS ABSURD PRETENSIONS.

IT is now a little more than a month since the news of Brown-Séquard's alleged method of rejuvenating the aged reached this country. The subject is one that naturally appeals to public interest, since a long life and a vigorous old age have always been among the chief objects of human desire, and consequently it has received a much greater share of newspaper attention than is usually bestowed on medical topics. This is most unfortunate, for the public discussion of such an absurdity tends only to bring scientific medicine into ridicule.

The method is on its face preposterous, its vaunted effects are impossible and ridiculous. It is opposed to all known physiological and biological laws, and had it not been bolstered up by the reputation of a Brown-Séquard, it would scarcely have been heard of outside of the Paris society where it was proposed, and no one would ever have looked upon it in any other light than as the foolish conceit of an old man, in whose mind the dreams of returning youth had assumed the counterfeit of reality. Supported as it was, however, by the weight of an authority hitherto respected in the world of medicine, it was necessary that it should be tested cautiously and in a proper way, and that the method should not be actually condemned until it had been proved as worthless, as were its pretensions extravagant. For unreflecting and obstinate scepticism in matters medical is as illogical as unreasoning credulity.

The experiments reported by Dr. Loomis in another column are sufficient, we think, to satisfy the demands of legitimate prudence. In fact, the subject has already receivedmore attention than it has deserved. The results of these experiments seem to show that the injected material may, in certain cases, act as a mechanical stimulant, but that is all; they fail utterly to support the extravagant claims of physical and mental rejuvenescence which have been put forward in behalf of this method. What these experiments do not so clearly show, since they were conducted with a proper regard for surgical cleanliness, is the imminent risk of septic poisoning or of tuberculous infection to which the subjects of such injections are exposed in the hands of incautious operators.

It is high time, therefore, to call a halt in this matter, unless scientific medicine is to be made ridiculous in the eyes of the public. If there are any not yet convinced of the worthlessness of this method, let them continue their experiments as long as they wish, but let them do so removed from the public gaze and out of sight of the newspaper reporters. It is repugnant to true science to parade such crude and untried theories before the public, as though they had received the stamp of authoritative approval, and in the name of this science we protest against it. The daily press is awakening to the true issues involved, and will in its own effectual way bury the theory out of sight, as soon as its falsity and absurdity have been made manifest.

## MUSCULAR ATROPHY AS A CAUSE OF JOINT PAINS.

ATROPHY of neighboring muscles accompanying, and dependent upon, articular disease, is a fact of daily observation, and as such needs no proof. But, although constantly noted, it is too often regarded only as a symptom, as a phenomenon associated with the joint lesion, and calling for no treatment apart from that bestowed upon the articular disease. It is true that during the progress of the affection the muscular atrophy may properly be ignored, since it can be little benefited at this time. But after the subsidence of the joint disease, the muscles should receive a much larger part of the surgeon's care than they do in most cases.

The importance of treating the muscular atrophy is well illustrated in the histories of several cases related by Dr. Bazy, in *Le Progrès Médical*, No. 12, 1889. In most of these cases there was a history of a sprain of the ankle or knee, followed by some pain and effusion. After a variable period of rest and appropriate treatment, the inflammatory symptoms subsided and the patient was apparently cured. The swelling in the joint disappeared, and passive movements were free and painless. But when the patient attempted to walk the pain returned and persisted, in spite of blisters, the actual cautery, tincture of iodine, etc., as long as any use was made of the joint. Examination at this time showed an apparently normal joint with free passive motion, and without effusion or synovial thickening. Pressure, however, revealed the presence of certain painful points, and these points corresponded almost invariably with the points of insertion of the articular ligaments.

This pain the author refers justly to abnormal traction on the ligaments of the joint, permitted by the weakness of the atrophied muscles. The rôle of the muscles in relation to an articulation is not, M. Bazy contends, strictly that of supplementary ligaments, as many writers hold, but rather that of guiding and directing the joint movements. As long as the muscles are strong and act promptly, the motions of the articulation are normal, and any unusual excursions whereby the ligaments are put unduly on the stretch are prevented. But when the muscles are weak and unable to perform their functions properly, these instinctive directing contractions do not occur, and the joint is subjected to repeated slight sprains. That the fault lies in the muscles, whether the author's explanation of their function be strictly accurate or not, is shown by the results of treatment, for on their restoration by means of massage and electricity, the pains disappeared and the normal functions of the joint were restored. In some cases this treatment was supplemented with advan-

tage by a firm bandage around the joint, which served to restrict undue lateral movement.

The cases reported by the author furnish an additional argument as to the necessity of treating the muscles, even after the joint lesion has been cured, a measure that is often slighted under the belief that use will suffice to restore in a short time the tone and power of the atrophied muscles.

### THE CURABILITY OF CIRRHOSIS OF THE LIVER.

In a lecture delivered some time ago at the University of Naples, Professor Semmola called attention again to his method of treatment of cirrhosis of the liver, which he had first proposed in 1879 at the Amsterdam Congress, although he had suggested the possibility of curing the disease ten years before that time. The method is a very simple one, and consists in the enforcement of a pure milk diet, no solid food whatever being allowed. By this diet, he claims, nutrition is sustained, while the least possible work is put upon the digestive organs, and it is upon this physiological rest that he relies for a cure of the beginning cirrhosis. It is, of course, only in the earlier stages of the disease that a cure can be expected, that is, during the stage of interstitial hepatitis, before atrophy of the organ has advanced.

In this connection, the lecturer took occasion to inveigh against too great a devotion to pathology, which tended, he thought, to promote pessimism in therapeutics. At the post-mortem table interstitial hepatitis is generally found in its atrophic stage, when the newly-formed tissue has become fibrous and contracted, and when no hope of cure can be entertained. One who has such a picture always before his mind, as the interpretation of the early symptoms of the disease, is not encouraged to treat the affection to the end of effecting a cure.

Professor Semmola reported several cases in which the symptoms pointed to an early stage of hepatic cirrhosis, and in which a cure was obtained by means of a rigid adherence to a milk diet without solid food or drugs.

### URIC ACID AND GOUT.

At a recent meeting of the Medical and Chirurgical Society of London, a rather interesting discussion took place on the relation of the gouty diathesis to uric acid. Dr. Arnold Schetelig, of Hamburg, read a paper on the presence of free uric acid in the urine as a test of the existence of the gouty state. *Free* uric acid, he said, had a tendency to crystallize out and conglomerate with any other crystalline uric acid already present. Its quantity was determined by first ascertaining the total quantity of uric acid contained in a patient's urine, and then allowing an equal portion of urine to pass through a filter charged with uric acid, the "lithic filter." Free uric acid remained on the filter while the urates passed through unaffected. The author had analyzed the urine in fifty-five cases, and had found from twenty-five to fifty (and more) per cent. of the total uric acid to be in the uncombined crystalline form in the urine of patients who were either troubled with some form of true gout, or had been so previously. Dr. Schetelig suggested that this test might be used to distinguish between cases of genuine and spurious gout. This form of uric acid, he said, could by treatment with baths, or with alkaline waters, or both combined, be diminished for a while, but would in most cases reaccumulate.

The treatment of gout, considered in its relation to the excretion of uric acid, was the subject of a paper by Dr. A. Haig. The author considered especially the influence of phosphate of sodium on the excretion of uric acid. Pure phosphate of sodium, he said, had long been known to be a solvent of uric acid, and he had pointed out that it increased the excretion of that substance. All specimens of the salt, however, did not act equally well. Analysis of several specimens showed that a small percentage of sulphate of soda was generally present. When about fifteen per cent. of the latter salt was present the mixture did not cause increased excretion of uric acid, but caused marked pains in the joints, due probably to retention of uric acid in them. Also, if a little dilute phosphoric acid was mixed with the pure phosphate in solution, it then did not cause plus secretion of uric acid, but if a little bicarbonate of soda was mixed with it instead the plus secretion was well marked. The addition of a little bicarbonate of soda to each dose was therefore advised as likely to insure a sufficient excretion of uric acid. Dr. Haig thought the phosphate was not likely to be of use in acute gout because the acidity in this disease was high, but it appeared to be of considerable value in the mental depression of uric acid in which the acidity was low and falling.

### THE MURDERER'S GUILT AND THE SURGEON'S RESPONSIBILITY.

A legal decision of considerable interest to surgeons was rendered not long since in a murder trial in Liverpool. A man named Vaughan was tried for the murder of a Mr. Godfrey, whom he had struck on the back of the head with an adze, inflicting a scalp-wound behind the ear. The injured man was taken to a hospital, and there developed symptoms of compression of the brain. It was thought that the skull was fractured, and on consultation the surgeons determined to trephine. This was done, and the man died in consequence, apparently of hemorrhage from a large vessel opened during the operation. At the post-mortem examination it was found that there had been no fracture of the skull. At the trial the defence claimed that death resulted directly from the operation, and was not to be attributed to the original injury. The judge ruled, however, that this claim was inadmissible, as no culpable want of skill or negligence on the part of the surgeons could be proven.

Such questions have arisen before, and are liable to be raised in any case in which the murdered man does not die within a very short time after the injury has been inflicted. If the wounded man is saved by timely treatment the defence is very willing to profit by the surgeon's skill, though seldom ready to acknowledge its agency. But if treatment is unavailing in saving life, it is the surgeon, they say, and not the assailant who has killed the man. There is a precedent in the English courts for this ruling, which is cited by *The Lancet* in its comment upon the Liverpool case. Edward Lawless Pym was tried at Southampton, in the year 1846, for the murder of a Mr. Hawkey, and had the advantage of being defended by Mr. Cockburn (afterward Chief Justice of England).

Mr. Pym had shot Mr. Hawkey in a duel and wounded him. An operation was subsequently performed, and the wounded man died. Mr. Cockburn proposed to show that the operation performed was unnecessary, and that without it the patient might have lived. But the presiding judge, Mr. Justice Erle, after consulting with Baron Rolfe, laid it down as law that "where a wound is given which, in the opinion of competent medical advisers, is dangerous, and the treatment which they adopt is the immediate cause of death, the party who inflicted the wound is criminally responsible."

This ruling would seem to be a very just one, and moreover one that will ultimately be of benefit to the accused in similar cases. For the surgeon, assured that the death will not be laid to his door, can accept the responsibility of treatment with greater confidence, and the success of his efforts will not be jeopardized by nervous apprehension of failure.

## News of the Week.

TOKIO FEMALE HOSPITAL.—The Empress of Japan has always taken great interest in this institution, and lately made it a present of over $7,000.

A PHYSICIAN SIXTY YEARS OF AGE killed himself not long ago, in Paris, because he was unable to make enough from his practice to pay his rent. A very similar case occurred here not long ago, when an aged physician shot himself after vainly seeking death by poison.

POST-GRADUATE INSTRUCTION IN LONDON.—Charing-Cross Hospital, in London, gives a short post-graduate course; but this is said to be the only facility offered in that city for post-graduate instruction, and it is suggested that a school similar to those in New York, Vienna, and Berlin be established there.

A DICTIONARY OF MEDICAL SPECIALISTS is the title of a book that has lately appeared in London, which purports to give a complete list of all practitioners in London who devote themselves to any specialty. The work is edited by a lawyer.

WHERE AND WHO WAS THE DOG?—Our esteemed contemporary the Pittsburg *Medical Review* speaks in the following enigmatical manner concerning the last meeting of the American Medical Association: "The covert snarl of that mean beast, the Dog in the Manger, was perceptible to practised ears at the Newport meeting. It is a pity that this offensive canine must intrude at the Association meetings. He should be kept chained at home, or at least muzzled by his more judicious friends when allowed at large."

THE END OF COLLECTIVE INVESTIGATION IN ENGLAND.—The Collective Investigation Committee of the British Medical Association states in their report this year that the returns upon the subjects proposed for study have been so few that they think it best to discontinue the work entirely, and ask that the Committee be allowed to lapse at the end of its current year, in October. The editor of the *British Medical Journal* thus briefly and unsympathizingly announces its demise: "Its success has been so dubious, that after a brief period of existence its animation has, I regret to see, been suspended. I pointed out its sources of inherent weakness, and the improbability that it could fulfil the large expectations formed of it here, and which for a moment attracted the imagination of other associations and of the International Medical Congress. It was born with great *éclat*, baptized with many benedictions, welcomed with loud soundings of trumpet at Copenhagen; but neither energy, liberal subsidy, nor the devotion of some of the finest intellects in Europe could keep it alive."

THE MEDICAL PRACTICE LAW passed by the last legislature of Maine has been declared invalid. There was some technical defect in the law, which the next legislature will be asked to rectify.

THE AGENCY OF DISPENSARIES IN SPREADING CONTAGION.—To one who sees the often crowded waiting-room of any of the larger children's dispensaries of this city, the danger of the spread of contagious diseases through their agency seems no slight one, and they may not inaptly be called the clearing-houses for contagious disease. The existence of this evil has recently been brought to the notice of the authorities of Paris, and they have been requested to construct additional waiting-rooms for children suspected to be suffering from infectious diseases, and to delegate a medical officer to each dispensary for the purpose of making a selection of the cases, allowing only children recognized to be free from contagious disease access to the common waiting-room.

DR. ALEXANDER BROWN MOTT, of this city, died of pneumonia, in Yonkers, on August 12th. He was the son of Dr. Valentine Mott, and received his medical degree in 1850, after having studied a number of years in this country and in Europe.

The following minute was adopted by the Faculty of the Bellevue Hospital Medical College on August 15th:

"The Faculty of the Bellevue Hospital Medical College desire to record in their minutes an expression of deep sorrow at the death of their associate, the late Professor Alexander B. Mott. Professor Mott was one of the few remaining members of the original Faculty of the College. For twenty-eight years he had given his best efforts to the institution of which he was one of the founders; and many thousands of alumni can bear testimony to the value of his teaching. Endeared to his colleagues by long and intimate association, his death is felt by each one as the loss of an earnest teacher, a good and a true friend. AUSTIN FLINT, *Secretary*."

A SUMMER HEALTH-RESORT.—The name of the author of a paper with this title, published in the issue of August 3d, is Dr. Wm. H. Dukeman, and not Dakeman as printed.

SUNSTROKES IN NEW ORLEANS.—In the week ending July 23d, there were thirteen deaths from sunstroke in New Orleans, a very large number for that city, where deaths from this cause are much less frequent than during the heated spell in our northern climate.

DEATH OF DR. HILDRETH.—Dr. C. C. Hildreth, of Zanesville, O., died in that city on August 11th, of cerebral apoplexy. He was born in 1811, and had been in active medical practice for fifty-six years.

THE FIRST ANNUAL MEETING of the American Pædiatric Society, will be held in Washington, D. C., on September 20 and 21, 1889, under the presidency of Dr. A. Jacobi, of this city. The sessions will be held at the Army Museum Building, but one of the afternoon meetings will be held in the Johns Hopkins Hospital, Baltimore, Md., by invitation of the director of the hospital. The following papers are announced: Address by the President; "Notes on a Case of Ataxia in a Child of Ten Years," by A. D. Blackader, Montreal, Canada; "A Study of some of the Bacteria Found in the Dejecta of Infants Afflicted with Summer Diarrhœa" (second communication), by W. D. Booker, Baltimore, Md.; "Noisy Respiration," by Dillon Brown, New York; "Prolapsus Recti due to Large Stone in the Bladder in a Girl Three Years Old," "Two Cases of Nystagmus Associated with Choreatic Movements of the Head in Rachitic Babies," "Septic Diphtheria with Unusual Sequelæ," "Personal Prophylaxis in Diphtheria," by A. Caillé, New York; "Subcutaneous Emphysema in Children," "The Necessity of Prolonged Rest after Some Attacks of Diphtheria," "Two Cases of Carpo-pedal Contraction," by Charles Warrington Earle, Chicago, Ill.; "The Treatment of Scarlet Fever and its Complications," by J. Henry Fruitnight, New York; "Spurious Meningocele," "Double Empyema," by Francis Huber, New York; "Aneurism in Early Life," by A. Jacobi, New York; "A Contribution to the Summer Diarrhœas of Infancy," by John A. Jeffries, Boston (by invitation); "Tuberculosis of the Testis in Childhood," by H. Koplik, New York; "Cases of Spastic Paraplegia," by Thos. S. Latimer, Baltimore, Md.; "Scarlet Fever," by I. N. Love, St. Louis, Mo.; "The Artificial Feeding of Infants," by Arthur V. Meigs, Philadelphia, Pa.; "Case of Diaphragmatic Hernia, with Operation," "The Apparent Physical Contradiction Involved in the Reinflation of a Collapsed Lung while an Opening remains in the Pleural Sac," by J. O'Dwyer, New York; "A Case of Simple Muscular Atrophy of the Facio-scapulo-humeral Type," "Cerebral Sclerosis in Children," by Wm. Osler, Baltimore, Md.; "Diphtheria," by A. Seibert, New York; "Some Practical Points on the Diagnosis and Treatment of Malaria in Children," by H. N. Vineberg, New York; Titles not yet announced, W. T. Northrup, New York; J. L. Smith, New York; and V. W. Vaughan, Ann Arbor, Mich.

ANTIPYRINE AND LANOLINE have, it is stated, been adopted as official in the new edition of the Austrian pharmacopœia.

THE TERCENTENNIAL OF THE MICROSCOPE.—Preparations are already being made in several German university towns to celebrate next year the three hundredth anniversary of the invention of the microscope. Zacharias Janssen, of Magdeburg, is credited with having constructed the first microscope in 1590.

AN INTERNATIONAL CONGRESS OF DEAF-MUTES.—The first international congress of deaf-mutes was held in Paris on July 10 to 17, 1889. The subjects discussed were the relations of the deaf-mute to society, to labor, and to the laws of his country. There was also read an historical sketch of the benefactors of deaf-mutes from the time of the Abbé de l'Epée to the present. The congress also celebrated the centenary of the Abbé de l'Epée, who died in July, 1789, and erected a commemorative tablet upon the site of his birthplace at Versailles. The question of sign language was also discussed, and while most of the members agreed upon the necessity of teaching articulation, all were of the opinion that the sign language was of prime necessity as a medium of expression, and indispensable as an aid to the acquirement of knowledge and to the cultivation of the mental faculties.

THE DAILY NEWSPAPERS, at least, have cause to bless Brown-Séquard, for he has given them a very taking subject with which to while away the "silly season."

MARSHALL VOUGHT, for sixteen years warden of the almshouse on Blackwell's Island, died suddenly on August 13th, of heart failure.

ACTING ASSISTANT SURGEON MONTANYE, of the Marine Hospital Service, died in San Francisco on August 13th.

A USEFUL GIFT.—A citizen of Leipsic, possessed of ample means, and of the still rarer gift of knowing how to make them useful to his fellow-man, has just presented to the medical relief fund of that city and its neighborhood two extensive estates in the Saxon Erzgebirge, specially purchased by him as places to which the poor laborer or artisan, recovering from illness, may be sent for the completion of his cure. Both estates—the one near the Schneeberg, the other near the Schwarzenberg—are finely situated in a healthful, well-wooded, well-watered region, and have been pronounced, on the highest medical authority, to be admirably adapted for their purpose. The donor has made it a condition of his gift that his name be kept undivulged.—*The Lancet.*

THE LATEST NICKEL-IN-THE-SLOT MACHINE.—The latest in the way of development in automatic machines is one recently brought out in England, by means of which anyone can have his sight tested and receive an order for spectacles. The following is a description of the machine by a writer in the *Provincian Medical Journal.* There is the usual case, somewhat after the model of the weighing machine, but on the front face are two eye-holes, with depression underneath for the nose. You place a penny in the slot, press one foot on a pedal, look through the eye-holes, and by turning a small crank you bring a series of lenses into position. You are looking at a card, on which some words are printed, as, "If you can read this you do not require spectacles." If writing can only be read with certain lenses, then the number of spectacle required is also read, and on satisfying oneself that these lenses suit, on withdrawing the foot a box is set free, in which are order forms, on which the number can be entered. Convex and concave glasses are used for testing in this ingenious manner. The company offer to supply spectacles to order at 4s. 6d.

EAU DE COLOGNE TIPPLING.—It is said that the practice of drinking cologne is becoming very common both in Europe and in this country, and as an indication of this that the sale of the perfume has increased greatly of late years. Women are more addicted to the habit than men, and a writer in the *Quarterly Journal of Inebriety*, says that the presence of obscure and complex nervous disorders in a woman who uses cologne externally should always suggest the possibility of its internal use.

THE TENTH INTERNATIONAL MEDICAL CONGRESS.—The following notice has been received: We, the undersigned, do hereby give notice that, according to the resolution passed at the Washington meeting, September 9, 1887, the tenth International Medical Congress will be held in Berlin. The Congress will be opened on the 4th and closed on the 9th day of August, 1890. Detailed information as to the order of proceedings will be issued after the meeting of the delegates of the German Medical Faculties and Medical Societies at Heidelberg on the 17th of September in the current year. Meanwhile, we should feel sincerely obliged, if you would kindly make this communication known among your medical circles, and add in the same time our cordial invitation to the Congress. von Bergmann, Virchow, Waldeyer.

MME. DEJERINE KLUMPKE, an American wife of a Frenchman, has won the degree of "Doctoresse" from the Paris Faculty of Medicine, with high honors. The subject of her thesis was: "A Contribution to the Study of Polyneuritis in General, and of Lead Paralysis and Atrophy in Particular."

THE KOLA-NUT.—The value of the kola-nut (seeds of Sterculia acuminata) as a dietetic and therapeutic agent has been recently tested by Surgeon R. H. Firth. These nuts are allied in composition to cocoa, coffee, and tea, but contain a relatively large amount of caffeine. The properties ordinarily assigned to kola are those of a strong tonic and stimulant to the nervous system, counteracting and removing the sense of exhaustion after fasting and fatigue; it has also been credited with having an antagonistic action to alcohol, and it has been said to purify water. From his observations Surgeon Firth concludes that kola is in no sense a food; that it increases the total urinary water, with a slight reduction of its total solids, and a marked reduction of the extractive; that it has a peculiar stimulant action on the nervous system, temporarily strengthens the heart-beat, and increases the arterial tension. In times of exertion and fasting it wards off the sense of mental and physical depression and exhaustion. As a therapeutic agent in convalescence, and as an antagonist to alcoholic sequelæ, kola has not yielded any positive results in Surgeon Firth's hands. For the purification of water it does not appear to be superior to other mucilaginous seeds, its action being purely mechanical. In this report due prominence is given to the importance of separating seeds which contain no caffeine, such as Garcina kola and Sterculia cordifolia, as these would speedily discredit the employment of kola by the troops under conditions when it might possibly be of service. It appears that an infusion, from its astringent action, might be used for those suffering from diarrhœa.—*Lancet.*

THE TREATMENT OF ACUTE RHEUMATISM.—Dr. W. N. Maccall read a paper upon this subject at the Clinical Society of Manchester. After reviewing the previous treatment of acute rheumatism during the last twenty-five years, Dr. Maccall considered the value of the present routine treatment by salicylic acid and its allies or derivatives under the following headings: 1. In relieving pain and lessening fever in acute rheumatism, the salicyl treatment is undoubtedly the most effective we know of. 2. The salicylates do not preuent the rare complication of hyperpyrexia, and are absolutely useless in its treatment. 3. It is doubtful if they prevent endocardial or pericardial troubles, the percentage remaining about the same (fifty per cent.) since the salicyl treatment as before. They seem to have no influence in curing these troubles when they do occur. 4. There is no proof that the salicylates prevent relapse. 5. It is not proved that the salicylates lessen the duration of the disease, or that they prevent anæmia. With regard to the particular form of the remedy, most writers recommend (and Dr. Maccall agrees with them) salicylate of soda in twenty-grain doses, at first every hour, for three or four hours, according to circumstances. It should be continued in diminishing doses for at least eight or ten days after all pain and pyrexia have gone, and in most cases should be followed by iron. Salicylic acid, salicin, and salol might be tried in exceptional cases where the soda salt was not well borne. In young children antipyrin might be substituted with advantage. In convalescence, Sir A. Garrod's alkaline mixture, followed by iron, was advised; and, if any joint remained stiff or swollen, blistering or painting with iodine was useful. Dr. Braddon expressed himself as disappointed with the salicylate treatment, and preferred, as a rule, the alkaline combined with Dover's powder. Dr. Railton considered salicylic acid or its salts to be comparatively useless in acute rheumatism, except as regards the relief of pain.

A RESPIRATION CHAIR.—In a graduation thesis Dr. Carl Grunert, of Halle, discusses and describes the treatment of emphysema and asthma by means of the respiration chair. The chair is so constructed as to effect by means of levers and bands attached to it pressure and traction on the thorax similar to that exerted by the muscles in forced respiration. A cuirass makes backward and downward pressure on the thorax, while a broad band compresses the abdomen and so increases the intra-abdominal pressure; the abdominal viscera then force the diaphragm upward, and the latter rises. The ultimate effect, according to the author, is to make a forced expiration possible, to considerably decrease the volume of the thorax, and to empty more completely the hitherto badly aerated alveoli, so that at the next inspiration more oxygen enters; any bronchitic mucus which may be occluding the alveolus is also expelled. This is followed, of course, very soon by diminution of the dyspnœa. The disturbance of the circulation of the blood in consequence of emphysema is recognized by the abnormal loudness of the second pulmonary sound. This was found to decrease in three patients after a treatment of from three to six weeks in the respiration chair, while the first mitral sound increased, showing that the cardiac muscle had become stronger. Emphysematous patients treated in the chair lost more or less completely their chronic bronchial catarrh; the attacks of coughing improved greatly, permitting sleep to be obtained without disturbance; the asthmatic symptoms, too, were frequently cured. A number of cases treated by this method in the chair are described, and the results obtained tend to show that in many instances the respiration chair may prove an advantageous method of treatment.

"ZYMOTIC DISEASES, CONSIDERED WITH REFERENCE TO THEIR CAUSE, EXTENT, AND PREVENTION," is the title of an interesting and instructive pamphlet recently published by Dr. R. French Stone, of Indianapolis.

THE SCOTCH MEDICAL SCHOOLS.—A proposition was made recently in the House of Lords to abolish the medical faculties in the Scotch universities. As might be expected, it met with but little favor in or out of Parliament.

## Reviews and Notices of Books.

A COMPENDIUM OF DENTISTRY. By JULIUS PARREIDT, Dental Surgeon at the Leipsic Surgical Polyclinic. Translated by LOUIS OTTOFY, Chicago; with Notes and Additions by G. V. BLACK, M.D., D.D.S., Chicago. 8vo, pp. 229. Chicago: W. T. Keener. 1889.

ACCORDING to the author's preface, the family medical adviser should always be acquainted with a few facts concerning dentistry. He should know the indications for filling teeth. He should be able to trace the possible connection between diseased teeth and neuralgia, and other nervous disorders, meningitis, pyæmia, attendant on inflammation of the jaws, etc. All of this information he can obtain from this volume, which is, however, intended for students of dentistry rather than of medicine. It would be a useful book of reference for the library of a general surgeon. An attractive typography, numerous and well-executed illustrations, together with creditable work on the part of the translator, combine to make an attractive volume.

HANDBOOK OF SKIN DISEASES. By ARTHUR VAN HARLINGEN, Professor of Diseases of the Skin in the Philadelphia Polyclinic. Second edition. 12mo, pp. 410. Philadelphia: P. Blakiston, Son & Co. 1889.

AFTER a brief summary of the primary lesions of the skin (macules, papules, etc.), with a table of classification, follow in alphabetical order (titles in bold-faced type) the various skin diseases, remedies, etc. Under each title pathology is briefly considered, while diagnosis and treatment are given at greater length. Cutler's "Manual of Differential Diagnosis" is largely drawn upon for the former. Naturally, in the various descriptions occurs the impress of his own views. In a foot-note under "Acne" the author denies that masturbation is a cause thereof, and strongly deprecates the use of cold sounds as a curative agent, and hopes "that this cynical procedure will rarely be employed;" the colored plates and woodcuts are better executed than is usually the case in works of this class. The manual is interesting as the exponent of the views of a writer of reputation and ability, and students will find it remarkably well adapted to preparing them for their examinations.

MATERIA MEDICA, PHARMACY, AND THERAPEUTICS. By CUTHBERT BOWEN, M.D. 12mo, pp. 366. Philadelphia: F. A. Davis. 1889.

THIS belongs to the Physicians' Ready Reference Series. It consists of a compilation from lecture-room notes, and the various text-books on the above topics. It is managed in the form of questions and answers, and according to our conviction, may be useful to Philadelphia medical students, but certainly to no one else.

ELECTRICITY IN THE DISEASES OF WOMEN. By G. BETTON MASSEY, M.D., Physician to the Nervous Department of Howard Hospital, Philadelphia, etc. 12mo, pp. 210. Philadelphia and London: F. A. Davis. 1889.

THE present discussion on the general topic of gynæcological electro-therapeutics gives much interest to this systematic presentation of ideas. After a description of the apparatus required in galvanism, follows an interesting chapter on the action of concentrated milliampère currents on organized tissues. Throughout the book special reference is made to the action of concentrated currents. The physiological effects of Faradism and Franklinism are in turn discussed, together with the operative details of pelvic electro-puncture and intra-uterine galvano-chemical cauterization. Then succeed chapters on the application of the proper current to the various gynæcological maladies. So much for the general outline of the work. The writer believes that gynæcological electro-therapeutics are due to a "dawning reaction from the ultra-mechanical methods of the followers of the late Marion Sims." He is right in saying that an acquaintance with physics is essential to a proper conception of what electricity can do in pelvic diseases, and of how it should be used. In regard to the greatest mooted point of the present day—the Apostoli theory of curing uterine fibroids, the writer expresses himself somewhat cautiously. We quote (p. 123): "Diminishing bulk, checking hemorrhage, easy menstrual periods, relief of pressure symptoms, and general restoration of the patient has been the usual result in all cases so far operated upon by the author; and this is invariably the verdict of all those who have used currents intelligently for this condition." Dr. Massey believes that the lessening of bulk of fibroids may be due, not only to the denutritive and atrophic action of the current on fibroid tissue, but also to its contractile influence on the muscular tissue of the uterus and on the true myomatous tissue of the growth itself. We can heartily recommend the book as an epitome of the most recent views on this topic.

A DIALOGUE AGAINST THE FEVER PESTILENCE. By WILLIAM BULLEIN. From the edition of 1578, collated with the earlier editions of 1564 and 1573. Edited by MARK W. BULLEN and A. H. BULLEN. Part I. The Text. London: Published for the Early English Text Society by N. Trübner & Co. 1888.

THIS book was a popular one some three hundred years ago, being full of alleged "merrie tales," and divers archaic disquisitions upon men, mortality, and the pestilence.

THE ANATOMIE OF THE BODIE OF MAN. By THOMAS VICARY, Sergeant of the Surgeons to Henry VIII., etc. Surgeon to St. Bartholomew's Hospital, London, 1548–62. The edition of 1548, as re-issued by the Surgeons of St. Bartholomew's in 1577. With a Life of Vicary, Notes on Surgeons in England, Bartholomew's Hospital, and London in Tudor Times. An Appendix of Documents and Illustrations. Edited by FREDERICK J. FURNIVALL, M.A., HONORABLE DR. PHILIP and PERCY FURNIVALL. A student of St. Bartholomew's. Part I. EARLY ENGLISH TEXT SOCIETY. Extra Series, LIII. London: N. Trübner & Co. 1888.

VICARY'S Anatomy was the first English work on the subject, and it was, with various supplements, the standard text-book for one hundred and fifty years. The republication of so historic a work will gratify many physicians interested in the development of anatomical science. The book will interest all who are fond of the quaint and curious in literature.

TRANSACTIONS OF THE THIRTY-FIFTH ANNUAL SESSION OF THE MEDICAL SOCIETY OF NORTH CAROLINA (for the year 1888). 8vo, pp. 252. Edited by the PUBLICATION COMMITTEE. Wilmington. 1888.

ONE of the most interesting chapters of this creditable volume relates to the doings of the State Board of Examiners. They are working faithfully and practically. We believe, by the way, that our Southern friends were the pioneers in this direction.

REPORT OF THE CONNECTICUT STATE BOARD OF HEALTH FOR THE YEAR 1888. 8vo, pp. 199. New Haven: Tuttle, Morehouse & Taylor. 1889.

AN attractive volume, full of vital statistics. Papers on water pollution and State hygiene.

THE STUDENT'S TEXT-BOOK OF PRACTICE OF MEDICINE. By ANGEL MONEY, M.D., London, Assistant Physician University College Hospital, London. 12mo, pp. 444. H. K. Lewis. 1889.

THIS is a remarkably well-written, comprehensive, and concise epitome of the practice of medicine, and is well calculated to meet the needs of the student who is attending lectures or preparing for the various examinations.

AMERICAN RESORTS, WITH NOTES UPON THEIR CLIMATE. By BUSHROD W. JAMES, A.M., M.D., Member American Association for the Advancement of Science, etc. 8vo, pp. 285. Philadelphia and London: F. A. Davis. 1889.

THE reader will be somewhat disappointed in the perusal of this work, as it does not cover the intended ground, and is entirely too superficial in the treatment of the subject. The general idea is a good one, as it is free from any appearance of advertising watering-places or other health-resorts; but, scientifically speaking, it is little more than a general railroad guide to different parts of our continent, with an incidental reference to the character of the climate in different sections. The foundation is laid broadly enough, but useful details are almost everywhere wanting. There is an excellent official railroad map of the United States, which gives the work its chief value.

THE ESSENTIALS OF PHYSICAL DIAGNOSIS OF THE CHEST AND ABDOMEN. By I. WALLACE ANDERSON, M.D., Physician to the Royal Infirmary, Glasgow. 12mo, pp. 152. New York: Macmillan & Co. 1889.

THIS little work maintains its claim to recognition as one of many of its kind, and proves the author to be an exact and careful teacher.

THE OLD HOSPITAL AND OTHER PAPERS. By D. B. ST. JOHN ROOSA, M.D., LL.D. 8vo, pp. 320. New York: William Wood & Co. 1889.

"THE central idea of the papers in this volume," says the author, "is an attempt to define and adjust the relations of the medical profession to the community which it serves." The author has succeeded exceedingly well in his attempt to do this. Although an enlarged edition of the author's former work, "A Doctor's Suggestions to the Community," it appears almost as an essentially new work, not only as regards its elegant typographical execution, but as to interesting material which has been added. The description of the old New York Hospital is the first article, and is written in the author's best style. To read it is to have been there and lived there. The other sketches have also merits of their own—all interesting, practical, suggestive, and charmingly written. The author has the happy faculty of riveting an argument by an apt illustration, thus not only making it more impressive, but if possible more convincing. Essentially broad in his grasp, he takes high ground and opens up large views of the situation and prospect. Aside from its sound doctrine, the work will be read for its intrinsic literary merit, and this will be one of its strong holds with the lay public. Without wishing to make invidious distinctions, we confess to partiality for "the coming medical man," "the relations of the medical profession to the State," and "the means of effecting the unity of the medical profession"—all well written and sound. But what shall we say of the sketch of Little? We all loved Little, and so did the author.

The makeup of the book is a marvel of the printer's art.

KIRKES' HANDBOOK OF PHYSIOLOGY. By W. MORRAND BAKER, F.R.C.S., Surgeon to St. Bartholomew's Hospital, etc., and VINCENT DORMER HARRIS, M.D., London, Fellow of Royal College of Physicians, etc. Twelfth edition. 8vo, pp. 757. New York: William Wood & Co. 1889.

THE present edition of this admirable text-book has been rearranged, revised, and rewritten, and is at present fully up to the times in its treatment of the subjects which are the leading ones in the study of physiology. Many important additions have been made in the chapters on blood, heart, and muscular system, while the articles on the reproductive organs and the nervous system have been to a great extent rewritten. The necessity for the latter was quite apparent, considering the advances made in that department of study even within the last few months. The illustrations are accurate and numerous, and add very much to the intrinsic value of the work. Altogether it is one of the best text-books on the subject for the use of teachers and students.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. vi. Edited by J. EWING MEARS, M.D., Recorder of the Association. 8vo, pp. 568. Philadelphia: P. Blakiston, Son & Co. 1888.

THIS is an unusually interesting volume, and is full of well-written and practical papers on surgical subjects. The proof of this is indicated by the following list: "Relation of Social Life to Surgical Disease," by D. Hayes Agnew; "Study of Excision of Larger Joints," by John Ashhurst, Jr., M.D.; "Relation of Micro-organisms to Injuries and Surgical Diseases," by N. Senn, M.D.; "Three Successful Cases of Cerebral Surgery," by W. W. Keen, M.D.; "The Formation of an Artificial Urethra in Prostatic Obstructions," by Hunter McGuire, M.D.; "The Operations of Supra-pubic Lithotomy, and the Surgical Management of Typhlitis and Perityphlitis," by W. T. Bull, M.D.; "Surgical Interference in Perforating Typhoid Ulcer," by J. Ewing Mears, M.D.; "Ligation of Carotid and Subclavian Arteries for Innominate Aneurism," by John H. Packard, M.D.; "Tracheotomy and Intubation in Croup," by George W. Gay; "Pregnancy and Operative Surgery," by Louis McLane Tiffany, M.D.; "Nerve Stretching," by N. P. Dandridge, M.D.; "Nephrectomies for Gunshot Wounds of Kidney," etc., by DeForest Willard; "Shock," by David W. Cheever, M.D.; "Experiments with Pyogenic Bacteria," by Roswell Park; "Cyst of Pancreas Successfully Removed," by W. S. Tremaine, M.D.; and "Pelvic and Abdominal Drainage," by David Prince, M.D.

TRANSACTIONS OF THE ROYAL ACADEMY OF MEDICINE IN IRELAND. Edited by WILLIAM THOMPSON, M.A., F.R.C.S., General Secretary. 8vo, pp. 472. Dublin: Fannin & Co. 1888.

THE volume is one of the most interesting of the series, is full of practical papers on different branches of medicine and surgery, and is plentifully supplied with beautiful plates. Altogether it is a model of its kind, and well sustains the reputation of this Academy for accurate and solid work.

MERCK'S INDEX. A catalogue of the various products of the celebrated Darmstadt firm. Useful for reference.

MEDIASTINAL DISEASE. By HOBART AMORY HARE, M.D., Demonstrator of Therapeutics, University of Pennsylvania, etc. 8vo, pp. 150. Philadelphia: P. Blakiston, Son & Co. 1889.

THIS essay gained for its author the Fothergillian Medal of the London Medical Society in March of last year. Dr. Hare deserves great praise for writing upon a subject of which very little systematic knowledge has hitherto been had. No attempt has been made to touch upon mediastinal disease affecting well-defined organs in this part. Chapters are included on mediastinal tumors (cancer and sarcoma, lymphoma, lymphadenoma, and fibroma), inflammations, abscess, hæmatoma, cysts (dermoid and hydatid). In all, the records of five hundred and twenty cases have been investigated and collated in these pages. In these latter days, when everyone rushes into print with hasty reports of cases, it is a pleasure to observe the care with which the present volume has been prepared. Of this kind of literary medical work we cannot have too much. The present instance reflects great credit alike upon the writer and American literature.

THE LIFE INSURANCE EXAMINER: A Practical Treatise upon Medical Examinations for Life Insurance. By CHARLES F. STILLMAN, M.S., M.D., Medical Examiner for the Mutual Life Insurance Company for the General Agency of the City of New York; Examining Surgeon of the Travelers' Insurance Company of Hartford, Conn., for the City of New York; Clinical Professor of Orthopædic Surgery in the Woman's Medical College of the New York Infirmary; Orthopædic Surgeon to the New York Infant Asylum; Member of the American Orthopædic Association; Permanent Member of the American Medical Association; Fellow of the New York Academy of Medicine; Member of the New York Medico-legal Society, and of the New York County Medical Society. New York and Chicago: The Spectator Company. 1888.

A NEW field of activity for the physician, we might almost say a new profession, has arisen within the past few years in connection with life insurance. The examination of an applicant for insurance is no longer the perfunctory performance it was a few years ago, but is a thorough investigation of the physical condition of the person who seeks insurance on his life. And in proportion as the examination has become a more searching one, has its importance increased, until now the position of medical examiner to a life insurance company is one of great responsibility and trust. As an evidence of the growing dignity of this branch of the profession, may be mentioned the fact that the University of Vermont has added to its courses of lectures one on life insurance examinations, the first occupant of this chair being the author of the work before us. The book is notable for its practical character, the aim of the author having been to provide the medical examiner with a reliable guide which will point out to him clearly what he is to do, and what not to do, when an applicant comes to him for examination. The first part deals with life insurance formalities, giving the reader an idea of the forms used by different companies, with the questions put to the applicant. In the second part directions are given for the examination of the applicant; and the third part is devoted to a consideration of the diseases relating to life insurance. An appendix contains some statistical tables, instructions to agents, and an abstract of a paper by Mr. John M. Taylor on some legal questions as to the office and evidence of the medical examiner. The bibliography of life insurance examination is very meagre, and the author had almost a virgin soil to work upon, but he has tilled it so well and so thoroughly that he has left nothing to be desired. Some of the instructions are rather elementary, but that can scarcely be called a fault, and those who do not need them will overlook their presence for the sake of the others, few we hope, to whom they may be a help. The book is one which should be in the hands of every life insurance examiner; and indeed, we know of one large company, at least, which has presented a copy to each of its examiners, an example which other companies would lose nothing in following.

ELECTRO-THERAPEUTICS; OR, ELECTRICITY IN ITS RELATIONS TO MEDICINE AND SURGERY. By WILLIAM HARVEY KING, M.D. New York: A. L. Chatterton & Co.

THIS work is one of a number of similar text-books which have been published for the instruction of students since electricity has come to be recognized as one of our most active therapeutic agents. It has nothing special to give it a higher claim to recognition than its predecessors.

THE DIAGNOSIS AND TREATMENT OF EXTRA-UTERINE PREGNANCY. By JOHN STRAHAN, M.D., M.Ch., M.A.O. Pp. 134. Philadelphia: P. Blakiston, Son & Co. 1889.

THIS essay is the first to receive the William F. Jenks memorial prize, given by the College of Physicians of Philadelphia. It is an excellent review and criticism of the work done in this difficult branch of obstetrics up to the present time. The writer has been thorough and conscientious in his researches, careful in his statements, and methodical in his manner of presentation. All physicians who are likely to encounter cases of extra-uterine pregnancy should certainly read carefully this monograph. It will be a great assistance in the midst of the distracting perplexity which surrounds such a case.

PSYCHOLOGY AS A NATURAL SCIENCE APPLIED TO THE SOLUTION OF OCCULT PSYCHIC PHENOMENA. By C. G. RANE, M.D. Pp. 541. Philadelphia: Porter & Coates. 1889.

THIS is a work which the busy practitioner will have no time for. The author bases his psychology on the work of Dr. Friedrich Eduard Beneke, and endeavors to explain psychological phenomena in a non-materialistic manner. He thinks he has proven the possibility of an intercourse between departed spirits and this corporeal world.

PHYSIOLOGICAL NOTES ON PRIMARY EDUCATION AND THE STUDY OF LANGUAGE. By MARY PUTNAM-JACOBI, M.D. Pp. 120. New York: G. P. Putnam's Sons. 1889.

THIS volume contains the two essays published several years ago in the *Popular Science Monthly*, entitled "An Experiment in Primary Education," as well as an essay on the "Flower or the Leaf," and one on "The Place for the Study of Language." Space is lacking for a detailed analysis of these interesting and suggestive papers, which deal with some of the most perplexing subjects of pedagogics. The whole value of the methods employed in the "Experiment in Primary Education," could not be estimated until the child had reached adult life, and was placed in comparison with those whose education had been formed in another mould. Moreover, to test such a system a number of children, with their different minds, would have to be put through the same process. The aim of Dr. Putnam-Jacobi is admirable and one worthy of high consideration, that of imbuing a child early with a scientific method. There is no doubt that much is lost for the child in permitting it to waste its brain-force on trifling, unimportant things which will never be of the slightest use to it, when it might have been amused and instructed at the same time with the fundamental truths of nature.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY FOR 1888. 8vo, pp. 240. Edited by N. E. WORDEN, M.D., Secretary. Hartford: Case, Lockwood & Brainerd Co. 1888.

THIS Society is nearing its centennial, having been established in 1791. The present records are up to its high standard in the past, and contain many papers of interest.

INTERNATIONAL POCKET MEDICAL FORMULARY: With an Appendix Containing Posological Table: Formulæ for Inhalations, Suppositories, Nasal Douches, Eye Washes, and Gargles; Hypodermic Formulæ; Table of Hypodermic Medication; Use of Thermometer in Disease; Poisons and their Antidotes; Post-mortem and Medico-legal Examinations; Artificial Respiration; Ligation of Arteries; Obstetrical Table; Urinalysis; Differential Diagnosis of Eruptive, Typhoid, and Typhus Fevers; Tables of Pulse, Temperature, Respiration, Motor Points, etc. By C. SUMNER WITHERSTINE, M.S., M.D., Associate Editor "Annual of the Universal Medical Sciences;" late House Surgeon Charity Hospital, New York; Visiting Physician Home for the Aged (Little Sisters of the Poor), Germantown, Philadelphia. London and Philadelphia: F. A. Davis. 1888.

WE regret that we cannot praise this work as much as we can the diligent research made by the compiler in collecting so many formulæ, and the good taste of the

publisher in getting up the book in such a convenient and tasteful shape. We do not like the book because we do not approve of ready-made prescriptions, for the physician who does not know enough of the action of remedies and of the art of prescribing to enable him to devise his own formulæ as they may be required, ought to seek some other employment. Unfortunately, however, there are medical practitioners of this kind, and to these we can recommend the work most highly. If they will consult it frequently, and always when they feel called upon to order any medicine, they will in most cases do no harm to their patients, and may occasionally be able to benefit them. The diseases are arranged alphabetically, and under each are given the different formulæ which have been recommended at one time or another by various authorities. The book is interleaved so that the owner can add such formulæ as he may find in the course of his reading.

THE YEAR BOOK OF TREATMENT FOR 1889: Being a Critical Review of the Practice of Medicine and Surgery during 1888. Philadelphia: Lea Brothers & Co. 1889.

THERE is a great deal of useful knowledge contained within the covers of this little book, and though an attentive reader of any good medical journal will find little here that he has not seen mentioned in his journal, he will find it systematically arranged and convenient for reference. It is impossible, of course, to review and abstract everything that has been published during the year, and the reader would be disappointed if he expected to find everything he wanted in this book; but of all the year books, large or small, none is better than this, and none contains so much that is useful in so compact a form.

INTESTINAL SURGERY. By N. SENN, M.D., Ph.D., Attending Surgeon to Milwaukee Hospital, Professor of the Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago, Ill. Pp. 257. Chicago: W. T. Keener. 1889.

IN this branch of surgery, which, from its intrinsic interest and great importance, has taken so prominent a place in science, Dr. Senn is a pioneer, and no greater authority is there than he. He has devised several ingenious operations, one of which, intestinal anastomosis by perforated decalcified bone plates, would in itself win him fame. His new work, consequently, is both valuable and welcome. It consists of three papers, which have been read before medical associations and have appeared in various journals, hence any exhaustive review is unnecessary. The first is "The Surgical Treatment of Intestinal Obstruction." It is very thorough, treating exhaustively irrigation of the stomach, distention of the colon with fluids, rectal insufflation of gas, tubage of colon, taxis, massage, puncture, compression, enterotomy, colotomy, and abdominal section. The latter subject is perhaps the most valuable, as it details his methods of intestinal anastomosis, especially that with the use of bone-plates or catgut rings. The second paper gives the results of years of experiments in intestinal surgery on men and animals, with special reference to obstruction. A more interesting paper would be hard to find, and the conclusions drawn are of inestimable value. That comparatively new operation, omental grafting and omental transplantation, is discussed and detailed. The third and last paper, which was read before the American Medical Association in 1888, is entitled "Rectal Insufflation of Hydrogen Gas an Infallible Test in the Diagnosis of Visceral Injury of the Gastro-intestinal Canal in Penetrating Wounds of the Abdomen." He maintains that the alimentary canal is permeable to insufflation, either by the mouth or anus, but especially by the latter; that it is a safe operation, and is a sure means of diagnosis. All in all, the work can be criticised only to praise.

EXPERIMENTAL SURGERY. By NICHOLAS SENN, M.D., Ph.D., Attending Surgeon to the Milwaukee Hospital; Professor of the Principles of Surgery and Surgical Pathology in Rush Medical College, Chicago. Pp. 522. Chicago: W. T. Keener. 1889.

IN writing this work Professor Senn, who is recognized as one of the leading and most original surgeons of the day, has again made debtors of the profession and the public. For a number of years he has been carrying on experimental work, and this book is a clear, beautifully written, and intensely interesting account of these experiments, with their results. He first takes up that thorn of every surgeon's flesh, intra-capsular fracture of the neck of the femur. He shows theoretically and by experiment that bony union may not only be hoped for, but that nothing short of bony union of the fragments should satisfy the surgeon. If the fracture is impacted, manipulate as little as possible and fix by a plaster bandage on the body and both legs. If unimpacted, he puts on the plaster and obtains lateral pressure by an ingenious screw, the frame of which is worked into the plaster during application. A sure method, and the one to be adopted if the patient is in good condition, is to nail the fragments together with aseptic steel, ivory, or bone nails. The subject of intra-capsular fracture is most exhaustively treated, and an admirable résumé of the literature of the subject is given. He next discusses the ligature of blood-vessels, and in this day, when there is so much difference of opinion on the subject, the work is most timely. The method of cicatrization is thoroughly studied—in short it is a complete work on ligatures, interesting and valuable alike to both student and practitioner. The conclusions drawn are about as follows: That the aseptic catgut ligature is the safest and most reliable agent in securing either provisional or definitive closure of blood-vessels; the thrombus formed does not organize and takes no active part in the obliteration which results from connective tissue and endothelial proliferation; in ligation, the sheath of the vessel can be safely opened freely; in ligating large arteries in their continuity near a collateral branch, the double aseptic catgut ligature is preferable to the single ligature, and should be used in tying varicose veins. Air embolism, the result usually of the entrance of air into the veins during operation at the neck, is next studied both experimentally and clinically. It is shown that the chief cause of death in such a condition is mechanical overdistention of the right ventricle of the heart, and asphyxia from obstruction to the pulmonary circulation consequent upon embolism of the pulmonary artery. The latter is relieved if the heart is kept acting long enough to drive the air into the systemic circulation. The operative treatment, after stimulation, etc., consists of aspiration of the right ventricle, or, if the air entered through the internal jugular, catheterization of the right auricle through the vein. By these means, the air and spumous blood are removed, and very often the patient could be saved. The doctor makes an admirable and able argument in favor of this treatment. A hundred pages or more are devoted to the surgery of the pancreas. The literature on the subject is very scanty, and found only in medical journals. This is the first attempt to put it together and present it in a systematic form. Besides being a résumé of the literature of the subject, the article contains the results of the author's own researches, and most valuable they are: wounds, gangrene, abscess, hemorrhage, cysts, tumors, etc., are all thoroughly treated. The remainder of this most excellent work is made up of two papers: First, "An Experimental Contribution to Intestinal Obstruction," read in the Surgical Section of the Ninth International Medical Congress; second, "Rectal Insufflation of Hydrogen Gas an Infallible Test in the Diagnosis of Visceral Injury of the Gastro-intestinal Canal in Penetrating Wounds of the Abdomen." Both of these articles are presented in his new work on intestinal surgery which is reviewed below.

# Society Reports.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, April* 10, 1889.

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

### REPORT OF THE COMMITTEE ON MICROSCOPY.

EXAMINATION of the specimen referred to the Committee by Dr. S. J. McNutt, at the meeting of March 27th, shows it to be the newly formed membrane of pachymeningitis interna hæmorrhagica. No lesion in the substance of the brain was apparent. Respectfully submitted, JOHN S. ELY, IRA VAN GIESON.

DR. H. P. LOOMIS presented a specimen of

### MEDULLARY CANCER OF THE KIDNEY.

The tumor was removed from the body of a woman, twenty-eight years of age, who died in Bellevue Hospital. The principal complaint was of intense pain in the left side. At the autopsy the left kidney was found greatly enlarged, and on section the tumor was found to be a medullary cancer. It consisted of a thick, grumous material, and scarcely any true kidney tissue was found. The condition was rather a rare one in the speaker's experience.

Dr. Loomis also presented a specimen of

### CHRONIC DIFFUSE NEPHRITIS, WITH CONTRACTED KIDNEY, IN A CHILD ELEVEN YEARS OLD.

"The patient was a girl, eleven years of age, the second of four children. The eldest is now sixteen, and the youngest died in infancy of hydrocephalus. Her father contracted syphilis one year before the birth of his first child, and died when the patient was six years of age, having been an invalid for a number of years. Her mother has always been well. There is no history of gout in either parent's family. Her mother's family is rheumatic, and her father's phthisical. The patient was of feeble physique, but had never been severely ill, except with whooping-cough and chicken-pox.

"The first symptoms of renal disease developed about a year before her death. Albumin and casts were constantly found in the urine during the last eight months of life, and there was gradually developed marked left ventricular hypertrophy. The other usual symptoms of chronic diffuse nephritis were well marked. The direct cause of death was lobular pneumonia, attended by suppression of urine and uræmic symptoms.

"*Autopsy*, made fifteen hours after death.—Body emaciated; some œdema of the ankles; slight puffiness under the eyes.

"Heart: the wall of the left ventricle was one inch in thickness, the cavity was not dilated, and there was no valvular lesion.

"Lungs: there were the characteristic appearances in both lungs of lobular pneumonia. The liver and spleen presented a normal appearance.

"The kidneys were about one-third their normal size; capsule thickened and adherent; surface granular; color pale; cortex diminished in a few places; markings generally absent. A microscopical examination showed the following changes: An obliterating endarteritis of almost all the smaller arteries; the external coat of the arteries was also thickened; there was a large amount of connective tissue increase not only around the tufts and between the tubes, but also in dense patches throughout the cortex. Many of the glomeruli had the appearance of having undergone amyloid change, but the gentian-violet test showed that the material was not waxy. The tubes showed granular fatty degeneration.

"About a year ago the patient's older sister, without any apparent cause, developed all the symptoms of Bright's disease, and has been growing steadily worse ever since, following a similar course to her sister. To-day she has œdema under her eyelids, hypertrophy of the left ventricle, complains of severe headache, and is often so drowsy that she can with difficulty be aroused. Albumin and casts appear in the urine at times.

"In reviewing the history of these two cases the only conclusion which I can come to is, that the syphilitic taint inherited from the father showed itself in the children by the development in the kidney of the changes which are characteristic of such a condition.

"Neither of the children had had scarlet fever, nor were there any signs of renal disease until they reached in the one case the age of ten, and in the other the age of fifteen years. This seems to bear out the statistics of Fournier of 212 cases of hereditary syphilis, in which he found the symptoms of the inherited infection showed themselves in the maximum number of cases about the twelfth year.

"The kidneys were well-marked specimens of contracted kidneys, such changes are rarely met with excepting in a gouty or syphilitic diathesis. I find the records of such changes in children are exceedingly rare even in the offspring of gouty and syphilitic parents. Ziegler in his work on Pathological Anatomy says that in congenital syphilis induration and contraction of the kidneys have in somewhat rare instances been observed. Possibly these kidneys would come under this category. Certainly neither child presented any other evidence of hereditary syphilis.

"In looking up the literature of the subject I find that Foster, in 'Jahrbuch für Kinderheilkunde,' describes two almost identical cases of contracted kidneys in children—a boy and a girl, aged respectively four and a half and nine and a fourth years—the offsprings of a syphilitic father. The kidneys were small, and with adherent capsules. There was also left ventricular hypertrophy. These cases had also been referred to by Dr. Delafield in his last article on Bright's disease."

DR. S. T. ARMSTRONG presented the following specimens:

### HYPERTROPHY OF THE TUNICA VAGINALIS IN A CASE OF HYDROCELE.

W. P——, aged twenty, a native of France, a negro, was admitted to the hospital February 14, 1888. He had had gonorrhœa the previous month, with subsequent hydrocele. On the date of admission he was tapped, 200 c.c. of fluid being removed. (The fluid was used for bacteriological purposes.) On February 22d he was tapped, and tincture of iodine was injected, and one week later he was again tapped; the tunica was then so thick that the needle penetrated it with difficulty; iodine was again injected. On April 2d he was tapped once more, and on April 9th he was chloroformed, and the sac excised. The sac showed marked hypertrophy consequent upon new tissue formation. Its serous surface was roughened by the injection medium. (This case is reported at length in the "Annual Report of the U. S. Marine Hospital Service for 1888.")

### EPITHELIOMA OF THE PENIS.

T. D——, aged thirty-eight, New York, admitted January 30, 1889, for ulceration of the penis and prepuce. The remains of the latter were removed under cocaine. At first it was supposed that the ulceration was phagedenic, notwithstanding the history that in January, 1888, a sore appeared on his penis, and was followed by a papular eruption on his body. Subsequently a hard growth remained at the site of the initial lesion, and in the two months previous to admission this had rapidly enlarged. The entire glans was involved, presenting a red, fungous appearance. The penis was amputated, examination having revealed the epitheliomatous character of the growth. Dr. Armstrong believed that this disease was of rare occurrence, at least it was so in the experience of the Marine Hospital Service.

### TUBERCULOSIS OF THE EPIDIDYMIS.

H. D——, aged twenty-nine, Ireland, admitted February 29, 1888. In 1886 the left testicle was injured by a blow from a truck-handle. Subsequently he was operated

on, a small portion, he said, of the testicle being removed. A deep sinus existed, at the time of admission, in the skin of the left scrotum, involving the epididymis. This was incised, but it did not heal. Its tubercular character being demonstrated by examination of the pus, the testicle was extirpated. The patient was discharged April 17th. It is of interest, in connection with the relation of local to general or pulmonary tuberculosis, that this patient was readmitted for tubercle of the lungs on November 20th, and now has large cavities.

CHRONIC ORCHITIS.

O. F. O——, aged twenty-nine, Norwegian, was admitted to the hospital January 4, 1889. In 1886 the left testicle became enlarged without cause, as far as he knows. Two years ago he was treated in New Zealand for hydrocele. An ulcer of the skin occurred at the point of tapping that never healed. When admitted there was a large ulcer of the skin on the anterior surface of the scrotum, involving the testicle. All the lymphatic glands were slightly enlarged, probably in consequence of syphilis acquired sixteen months ago. The testicle was extirpated, and on section showed almost complete fibrous degeneration, but little of the tubular structure of the gland remaining. Undoubtedly the tapping for the hydrocele was an inciting cause, and the short period occupied in the production of the degeneration (two years) is a matter of interest.

DR. F. N. OTIS said that he had been somewhat surprised to learn that epithelioma of the penis was such a rare condition in the experience of the Marine Hospital Service, for he had seen and had operated upon quite a number of cases, and was of the opinion that the disease was one of moderately frequent occurrence in private practice. The results of operation in his cases had been quite satisfactory, and in those which he had been able to follow up there had been no return of the disease.

In regard to the case of thickening of the tunica vaginalis, he asked whether, in Dr. Armstrong's opinion, the thickening was the result of the treatment—of irritation caused by the penetration of iodine. He had seen some cases of thickening of the tunica from ordinary injury. One case occurred in a boy, sixteen years of age, who was struck by a base-ball, and had a hydrocele following. This was tapped several times, and subsequently a hydrocele developed on the opposite side. Dr. Otis saw the boy some two or three years later, and then the scrotum was enormously enlarged, measuring between five and six inches in its long diameter. Several efforts were made to draw off the fluid, but without success, and at last the speaker made up his mind that no ordinary instrument could pass through the thickened tunica vaginalis, and concluded to incise it. He went down through at least half an inch of the most dense fibrous tissue before coming to the fluid. He did a Volkmann operation. No portion of the tunica was removed, yet the thickening gradually disappeared, and the boy made a perfect recovery. In other cases a similar result had been obtained, and he had found that Volkmann's operation was all that was necessary to restore the tunica to its normal proportions.

DR. ARMSTRONG did not think that the thickening of the tunica vaginalis in his case was due to the action of the iodine employed. He had at first intended to perform Volkmann's operation, but had abandoned the idea, as he feared it would not suffice to effect a cure. Since learning of Dr. Otis' experience, however, he thought that very possibly he might have been successful had he adhered to his first intention.

THE PRESIDENT remarked that the effect of the Volkmann operation upon the thickened tunica vaginalis, in the cases related by Dr. Otis, was perhaps similar to that obtained by the gynecologists in the case of subinvolution of the uterus, as a result of repairing a lacerated cervix.

DR. JOHN S. ELY presented some specimens showing

HYPERTROPHY OF THE PROSTATE, CYSTITIS, AND PYELONEPHRITIS.

"The patient, an American, sixty years of age, first came under observation toward the end of November, when he presented himself at Bellevue Hospital with retention of urine. A soft rubber catheter was passed without difficulty. Enlarged prostate and cystitis were diagnosticated, and the bladder was washed out with one per cent. boric acid solution daily till all pus disappeared. He was then taught to use a soft rubber catheter, and was discharged. He returned to the hospital on January 4th, again with retention, which was easily relieved. Toward the end of January thick pus was noticed to be flowing from the urethra, and abscess of the prostate was diagnosticated. Dr. Hall performed external urethrotomy. The man did well for about a week, then had two chills at about thirty-six hours' interval, was slightly irrational at times, and had a considerable elevation of temperature. He gradually became weaker and died on February 7th of exhaustion.

"At the autopsy the prostate was found to be very much enlarged, especially the left lobe, which measured $6 \times 3\frac{1}{2} \times 3$ ctm., the whole gland measuring $6 \times 5 \times 3$ ctm. The prostatic urethra was compressed so that its lumen was completely occluded. When cut, the prostate presented the ordinary appearance of the hypertrophied organ. There was no sign of abscess.

"The wall of the bladder was much thickened ($1\frac{1}{4}$ ctm.), and its mucous membrane was velvety, congested, and covered with pus. A small amount of thin pus was in the bladder. The ureters were much dilated, the left somewhat more than the right, which measured about $2\frac{1}{2}$ ctm. in circumference. The pelves of the kidneys were also much dilated and filled with thin pus. The mucous membrane was much congested, and velvety in appearance. The capsule of the kidneys was somewhat adherent, the cortex was thickened and cloudy, and there were occasional points of light yellow color, suggesting small collections of pus. Many of the collecting tubules were much dilated.

"Microscopical examination of the kidney showed the characteristic changes of chronic diffuse nephritis, and also many collections of small round cells, with degenerating nuclei.

"Though this is but an ordinary case, I have thought it worth while to present it to-night, because the picture is so typical and because a practical lesson seems to be pointed by it. I have repeatedly heard Dr. Sands say that the liability to suppurative nephritis after operation was greatly increased by the existence of chronic Bright's disease. He always caused the urine to be carefully examined, and often refused to operate when albumin was present. When pyelitis exists the tendency to infection of the kidney must be great. So long as the strength of the patient can be kept up this may be counteracted in many cases. But weaken the patient by the additional drain upon his resources imposed by operation, and no wonder that the equilibrium before existing should be destroyed."

Dr. Ely then presented a specimen, on behalf of Dr. Hodenpyl, showing an

ENLARGED MIDDLE LOBE OF THE PROSTATE

which had caused a moderate degree of retention, though it had not given rise to very much trouble in this respect. He could give no accurate clinical history of the case.

Dr. Ely also presented a third specimen of

SUPPURATING HYDROCELE.

There was no history of the case, and the specimen had not been obtained until it had become somewhat decomposed.

DR. ARMSTRONG asked whether any strictures of the urethra had been found in the first case reported.

DR. ELY replied that there were no strictures.

Dr. Otis said that the third specimen seemed to be one of ordinary hæmatocele.

Dr. H. P. Loomis presented a specimen of

MULTIPLE ULCERS OF THE STOMACH IN A MORPHINE HABITUÉE.

"The specimen was removed from a woman, forty-two years of age, a nurse by occupation, who was admitted to Bellevue Hospital the 29th of March. Her parents died of old age. She denied alcoholic habits and a specific history. The patient was strong and well, up to twelve years ago, when she had to have her foot amputated, and as a result of attempts to relieve a severe neuralgia in the stump, she became addicted to the use of morphine. Since this time she had never been well, and had always taken morphine to excess. For the last three months she had been troubled with incessant vomiting and a severe pain in the epigastric region, and had been growing weaker and weaker.

"On admission to the hospital the patient was vomiting almost constantly; the material consisted of partially digested food, mucus, and, once or twice, some black coffee-ground material. A microscopical examination of the urine showed it to be normal. After a few days, by keeping the patient on a peptonized milk diet, giving oxalate of cerium and morphine, the vomiting stopped, the pain over the stomach improved, and the patient seemed to be doing so well that the visiting physician, after careful examination, directed that she be transferred to Charity Hospital. While sitting in the ward, waiting to leave the hospital, the patient fell over and died almost immediately.

"*Autopsy*, eight hours after death.—Lungs: the right lung was normal, with the exception of some old adhesions at the apex. The lower lobe of the left lung was bound completely to the chest-wall by new connective tissue-bands, and was almost airless; the upper lobe was normal. The heart-walls and cavities presented a normal appearance; there was some thickening at the base of the aortic and mitral valves, and the aorta was atheromatous. The spleen was enlarged and soft. The liver was of normal size, and showed the ordinary appearances of fatty infiltration. The kidneys were intensely congested; otherwise of normal appearance. The brain showed a slight opacity along the vessels of the convexity, which were intensely congested. Stomach: The organ was of normal size and empty. On opening the stomach, the mucous membrane was seen to be intensely congested, and the surface presented the ordinary appearance of a chronic catarrhal inflammation at the pyloric extremity. On the posterior surface, and near the lesser curvature, were four ulcers, the largest a half inch in diameter, the smallest the size of a pea. They were of circular shape, with 'clean-cut' edges; their floor showed no active inflammatory changes. One of the ulcers had penetrated as far as the muscular coat, another to the peritoneum, which could be seen as a thin membrane by holding the stomach up to the light. The largest ulcer had perforated, and looked like a clean hole punched out of the wall of the stomach, the edges of which were rounded and smooth. There was no evidence of peritonitis. The intestines were very anæmic and small, but no lesion was found in them."

Dr. John C. Peters said that he had seen some cases of ulcer of the stomach in which the lesions were seated in the upper portion of the organ. The patients were perfectly comfortable as long as they ate only small quantities of bland food; but a large meal would cause pain and discomfort; and, in one instance, a perforation took place in consequence of an indiscretion in this respect.

The Society then went into executive session.

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A New Mineral Spring.—In boring an artesian well for an Indianapolis hotel, water was reached at a depth of about a thousand feet, and was found to be strongly saline. A rough analysis has shown the presence of chloride of sodium, hyposulphite of sodium, and several sulphides.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

TUBERCULOSIS IN SOME OF ITS SURGICAL ASPECTS—REST VS. EXCISION IN THE TREATMENT OF TUBERCULAR JOINT DISEASE—COLOR-BLINDNESS IN THE MERCANTILE MARINE—THE PROPOSED HOSPITAL INQUIRY—SPECIAL HOSPITALS AND THE METROPOLITAN HOSPITAL SUNDAY FUND—THE BRITISH MEDICAL ASSOCIATION.

London, August 5, 1889.

In Mr. Howard Marsh's concluding lecture on "Tuberculosis in Some of its Surgical Aspects," delivered at the College of Surgeons, the lecturer remarked that, speaking of the general group of tubercular diseases met with in surgery, he believed that, when they were detected early and were adequately treated by prolonged rest, in not more than at the most ten per cent. did they develop to any formidable degree. It was a rule to which he had seen but few exceptions, that when, for example, a knee or an elbow, which was the seat of tubercular disease of less than three months' duration, was enclosed in well-fitted splints and kept at rest, the case gave no further real trouble. The symptoms began at once to subside, and the improvement, though slow, went on without material check until the joint was apparently free from disease; while, after a longer period of rest, complete recovery was secured. In early cases the period required for treatment did not, as a rule, exceed twelve or eighteen months, and he had met with many cases in which, after this time, no trace of disease beyond slight muscular wasting remained. In more advanced cases, though the period occupied was longer, the same treatment would lead to good repair. His experience as to caries of the spine accorded with what he had seen in the joints. When prolonged rest was secured, though these cases were tedious—for tubercle, once deposited, could not be got rid of quickly—there was nothing inveterate about them. Tney responded at once to treatment, and steadily improved; in the great majority complete recovery, though often with some degree of deformity, took place. They became unmanageable only when they had been allowed to advance for a twelvemonth and upward before treatment was commenced. In fact, it was with caries of the spine as it was with diseases of the joints. Early diagnosis and adequate treatment would lead to recovery, but if the process were allowed to advance month after month, or year after year, neither present nor future surgery could bring about satisfactory results. General tuberculosis occurred in some instances as the result of infection, either from any of the joints or from the spine. He had occasionally seen such cases, but he felt convinced that the percentage here was much the same as in the case of the hip-joint (in the preceding lecture Mr. Marsh estimated this as five per cent.).

After discussing at length some statistics relating to the subject, the lecturer observed that if we placed the results of excision, so far as recorded, side by side with the results of continued rest, there could be no doubt as to the conclusions at which we must arrive. Referring to various published series of cases in which the mortality varied from sixteen to thirty-six per cent., Mr. Marsh said he was confident that in cases of suppuration treated without operation the mortality was not more than ten per cent., and his strong impression was that it was materially less than this. As to the ultimate condition of the limb, our information as to the results of excision was limited. Some of these results were quoted, but the lecturer said he did not doubt that, as operative surgery improved, the immediate results of excision would be greatly superior to those referred to. They would be so good, especially when the operation was performed early, that, unless the results to be obtained without operation were kept well in

view, excisions would, he ventured to think, be performed much too commonly. It must be remembered that the mere healing of a wound did not show that an operation was the best thing for the patient, or afford any proof that it ought ever to have been undertaken. The main defect of excision was in the ultimate result as regarded the usefulness of the limb, when this was compared with a limb in which no operation had been performed, and in which the joint, instead of having been removed, had been restored to that considerable degree of usefulness which could generally be secured by rest. He believed it was now generally recognized by most surgeons that, although the immediate result of excision of the knee, in children, might be all that could be desired, yet the ultimate result was unsatisfactory. The union between the bones gradually yielded in many cases, the bones grew imperfectly, deformity ensued, and the functions of the limb were materially interfered with. He thought it would be much the same in the case of the hip. In both cases alike—in the knee and in the hip—when one of the principal joints of the lower extremity had been removed during childhood the patient had been seriously crippled.

A good deal of attention has of late years been given to the subject of color-blindness, not only in professional but in lay circles. The danger of allowing color-blind persons to engage in certain occupations, such as those of seamen and railway men, has been repeatedly pointed out by ophthalmic authorities. It is therefore satisfactory to find that the Government has appointed a departmental committee to investigate the subject of color-blindness among the seamen of the mercantile marine. The report of the committee, however, will not be laid before the House of Commons till next session.

On Monday last, in the House of Lords, the long-talked of petition (promoted by the Charity Organization Society) in favor of an inquiry into the working of voluntary and other medical institutions in the metropolis was presented by Lord Sandhurst. In doing so he referred to the various branches of the subject, pointing out some of the abuses known to exist. The President of the Privy Council, while mentioning some of the difficulties which beset the subject, said that the Government would consider the case for inquiry, and next session he might be able to announce what course they proposed to take. I am not very sanguine that the proposed inquiry, if held, will lead to much. Apart from the difficulty of interfering with institutions supported by voluntary contributions, there is the still more serious one of rival and conflicting interests to be dealt with. The most that can be hoped from a public inquiry is that it will bring the force of public opinion to bear upon institutions in which wasteful methods of management are in force, and thus lead to wise economies being enforced. A good deal has been recently said against special hospitals. There is no doubt that these are too numerous, and yet during the last few years new ones have been springing up like mushrooms—soon, in most cases, to get deeply involved in debt. It is significant that the Hospital Sunday Fund have this year refused the usual grant to two special hospitals, viz., St. John's Hospital for Skin Diseases and the West End Hospital for Diseases of the Nervous System.

It was lately announced that the annual meeting of the British Medical Association would be held in London next year. It was supposed of course that the matter was settled, and that the acceptance (in the general meeting at Leeds) of the invitation of the Metropolitan Counties Branch was merely a formality remaining to be done to clinch the matter. It appears we were mistaken. Some of the wire-pullers connected with the Branch want to undo this, and have accordingly summoned a meeting for to-morrow at which they hope, by a snatch vote, to rescind the vote given at the annual meeting of the Branch a month ago. No doubt the plan may succeed, especially considering that many members of the Branch have now left town. If so, offence will doubtless be given to many, but the executive of the Association will care little for that. They are indeed past masters in the art of giving unnecessary offence. If any illustration of this were needed, it would suffice to refer to the manner in which a letter to the *Journal* from a well-known hospital surgeon was recently suppressed, while at the same time an insulting paragraph animadverting on the writer was inserted,—to which, however, he was not allowed to reply.

## OUR PARIS LETTER.

TREATMENT OF INTESTINAL OBSTRUCTIONS BY ELECTRICITY—HEREDITARY MYOPIA — A NEW FORM OF TUBERCULOUS DISEASE—THE SECOND CONGRESS FOR THE STUDY OF TUBERCULOSIS—HONORS TO DR. NACHTEL.

PARIS, August 2, 1889.

ABOUT twelve months ago Dr. Larat read a note at the Academy of Medicine on the treatment of intestinal obstructions by electricity. At the meeting of the Academy of last week Dr. Hérard read his report on the merits of the work. After having analyzed some of the observations related by Dr. Larat, Dr. Hérard considers that in presence of an intestinal occlusion, before having recourse to laparotomy or the formation of an artificial anus, one must first employ purgatives; if these do not succeed, belladonna, full doses of opium in subcutaneous injections, enemata of siphons of seltzer water, and finally, electricity should be employed. The mode of electrization which appeared to give the best results in acute strangulation is faradization. On the contrary, in the forms of intestinal occlusion which are slow in their course, accompanied with intestinal paresis, galvanization succeeds the best. In order to insure a proper action one must employ, simultaneously, inducted and continued currents. M. Boudet, of Paris, a well-known electrician, in the first instance, then Dr. Larat, had the happy idea of disseminating the galvanic electricity over a larger surface of the intestinal mucous membrane by means of an enema of salt water. This method appears to be the most efficacious. Dr. Le Fort thinks that it is necessary to make some reserve on this method of treatment, as, after all, Dr. Larat counts only ten cures out of twenty-four cases, and of these cures it is probable that some of them were cases not of true intestinal obstruction, but of obstinate constipation. He thought that it was well to employ electricity when one was in the presence of a patient presenting the symptoms of an intestinal occlusion; but, if this should not succeed in the twenty-four hours, one must without hesitation intervene surgically. It will be remembered that Dr. Duchenne de Boulogne was the first to try to overcome intestinal obstructions by the action of faradic electricity. Since then it has been remarked that smooth muscular fibres, like those of the intestines, were more sensible to the galvanic current; but the formation of eschars was feared, and the employment therefore of the continued current is exceptional. By an ingenious arrangement, however, adopted by M. Boudet, all danger is averted. One of the poles is formed by a large plate placed in contact with the abdomen, the other by a metallic stem enclosed in a sound of India-rubber, which is introduced into the rectum. The sound has an isolating property, so that, to pass the current, one introduces into the rectum one litre of salt water, which establishes the contact between the metallic stem and the intestinal parietes. Dr. Constantin Paul remarked that it was better to place in the intestine the negative, and not the positive pole, as recommended by Dr. Hérard; by this means one obtains more energetic intestinal contractions.

Dr. Duclaux communicated to the Academy of Sciences, in the name of Dr. Boucheron, a note relative to hereditary myopia and its treatment in adolescence. The children of myopes are not born myopes, they become so, but at an age more and more young, according as generations succeed. Thus, a grandfather who became myopic at twenty years, having a son myopic at fifteen years, they

would both have a slight myopia, and would be able to read without spectacles in their old age; but their grandchildren will become myopic at twelve years, and will already have been so to a great degree. The great-grandson will be a myope at eight years, will arrive at six dioptrics of myopia at fifteen years, at eight dioptrics at thirty years, will lose an eye at thirty-five years, and will have great difficulty in preserving his second eye to the end of his days. It is therefore necessary that this state of things should be more rigorously attended to. Dr. Boucheron remarked that in children somewhat the same thing happens with the muscles of the eye as what occurs in writer's cramp. The child strains in writing, contracts himself and there is produced cramp of the accommodation of the eye, and this abnormal accommodation tends to become permanent in myopic pupils. Dr. Boucheron examined 100 lycéens, and took the measure of their myopia. He instilled atropine into their eyes, and their myopia was modified. Hence, beyond the principles of hygiene, so easy to institute, he recommends the employment, in feeble doses, of atropine, duboisine, or simply cocaine.

M. Chauveau presented a note at the Academy of Sciences, for Dr. Curmont, Preparator at the School of Medicine of Lyons, on a new bacillary tuberculosis of bovine origin. The bacillus of Koch commits in the bovine species the same ravages as in the human species. But there exist other bacilli which also engender tuberculosis in oxen. Dr. Curmont has just discovered one, which is very singular by its morphological and physiological characters. This bacillus inoculated into the rabbit also determines tuberculosis, it invades not only the principal organs but also the blood. Inoculated into the guinea-pig it does not communicate tuberculosis to it, but it produces a general infection which is fatal. If, with the residues of its culture, one tries to determine, as is done habitually, immunity by inoculations, not only this immunity is not obtained, but, on the contrary, the animal is rendered more apt to contract infection. The guinea-pig dies in twenty-four or twenty-five days after the simple injection. After the inoculation and the new injection it dies much more rapidly in a few days. These facts are very singular, and in contradiction with what we have known till now.

The Second Congress for the Study of Tuberculosis will take place at the end of July, 1890, under the Presidency of Professor Villemin. The following questions are proposed for discussion: 1. The identity of tuberculosis in man and of that in cattle, fowls, and other animals. 2. The bacterian and morbid associations of tuberculosis. 3. The hospitalization of tuberculous subjects. 4. On the agents capable of destroying the bacillus of Koch, non-injurious for the organism, in regard to the prophylaxis and to the therapeutics of human and animal tuberculosis. Adhesions and subscriptions (twenty francs) are to be forwarded to M. G. Masson, Treasurer, 120 Boulevard Saint Germain, and all which concerns communications for the Congress should be addressed to M. le docteur L. H. Petit, General Secretary, 11 Rue Monge, Paris.

Dr. Nachtel, on the recommendation of the Minister of Public Instruction, has been nominated an officer of the Academy of France, in recognition of his great services in connection with the city ambulances.

## ELECTROTHANASIA.

To the Editor of The Medical Record.

Sir: Ever since the passage of the law in this State requiring the use of electricity as a means of capital execution, there has been much discussion as to the method of employing it, the apparatus, human resistance, the possibility of killing at all, etc. I say *since* the passage of the law, for, singularly enough, the method was legally adopted before any practical point had been settled with regard to electrothanasia (the writer would suggest the use of this word in the place of such a barbarous term as "electrocution," which appears in some of the daily papers). The commission that drafted the law had a few dogs killed at Buffalo in the following manner: They were partly immersed in a zinc-lined box containing water, which served as one pole; the wire of the other pole was inserted into the mouth or wound around the nose. The current was furnished from an electric light wire. It was upon such experiments as these that the new law was based! As to the electromotive force, the resistance, the current strength, the kind of current used, not one of these facts seems to have been known or noted.

In the summer of 1888, Mr. H. P. Brown, a practical electrician of this city; Mr. A. E. Kennelly, chief electrician of the Edison Laboratory, and the writer, made a large number of careful experiments upon lower animals, but not for the purpose of determining any facts concerning the employment of lethal currents in execution.

One object was to study the well-known differences between high-tension continuous and alternating currents, both of which have been fatal to many human beings in this country, and whose dangerously high voltage has been limited by law in England and France; and another object was to observe the physiological and pathological effects of death-currents (*Electrical World*, August 11, 1888). In all, some twenty-four dogs were killed. Subsequently the writer was made chairman of a committee of the New York Medico-Legal Society, to report upon the best method of execution by electricity, and the experiments already undertaken were found to have valuable application in a study of this subject. Additional experiments were conducted before this committee and a number of State prison officials, several calves and horses being killed. The committee then recommended, in legal procedures, the application of good-sized, metallic, sponge-covered electrodes to the head and spine, after careful saturation of the skin and sponges with a warm saline solution; the use of a 3,000 volt dynamo, and a current potential of 1,000 to 1,500 volts, alternating 300 times per second, for a period of time, from fifteen to thirty seconds.

There is no doubt that the current thus applied will kill in every instance without regard to human resistance, and that unconsciousness, and cessation of pulmonary and ventricular movements will be instantaneous.

The objections, upon the ground of enormous human resistances, so ably set forth by Dr. Sachs, in his letters to The Medical Record of July 27th and August 17th, can be met by accurate statements of facts already known.

In the first place, the writer does not dispute the correctness of Jolly and Gärtner in their determination of resistances in the human body amounting to as much occasionally as one-half of a megohm; but it must be borne in mind that this resistance is the initial resistance to exceedingly small electromotive forces, even as low as one volt, to which even less than 500,000 ohms would seem to be almost complete insulation. The strong current referred to by Dr. Sachs as reducing the resistance of the feet from 22,000 S units to 20,000 in a minute, had certainly not over forty volts as its electromotive force.

Now it is a fact that the greater the electromotive force the more rapidly is resistance reduced, and this is especially true of interrupted and alternating currents. For instance, the primary current of a faradic battery, which is an interrupted, and the secondary, which is an alternating current—neither one of these appears to meet with much resistance in the human body, for after the skin and electrodes are moistened the effect upon the sensory-motor apparatus of closing the circuit is so instantaneous that one almost questions whether there is any resistance at all. To be sure the electromotive force is quite high in a faradic battery, as it is multiplied by every turn of the coils, and this may explain the sudden overcoming of resistance. The writer is not aware of any special study having been made of resistance in connection with faradic

currents, with interrupted galvanic currents, or with "voltaic alternatives," which, if made to occur two to three hundred times per second would be our industrial alternating current. But the animals sacrificed last summer were carefully measured as to their resistances, and some of the facts then obtained have value as an argument here:

A dog with 7,500 ohms resistance took 800 volts of a continuous current for two seconds. During the two seconds the index of the ammeter rose rapidly to 1 ampère, which was as high as the instrument was made to register. Hence the resistance dropped from 7,500 to 800 ohms, or less, in two seconds. Another dog, with 6,000 ohms resistance, received one instantaneous shock of a 1,000 volt continuous current. The ammeter gave its full register of 1 ampère. Hence here was an instantaneous fall from 6,000 to 1,000 ohms, or less. A third animal, with 27,500 ohms resistance, received 160 volts of an alternating current for five seconds, causing immediate death. As the ammeter could not be used with this form of current, we were unable to determine the current strength. But surely the resistance must have been enormously reduced in five seconds, $\frac{160}{27500} = \frac{16}{2750} = \frac{1}{171.8}$, or nearly 6 milliampères, which of course did not kill the animal. Supposing even that as little current as one-tenth of an ampère killed the dog, we have a fall in five seconds from 27,500 to 1,600 ohms!

Further instances need not be cited, but attention should be called to the fact that the resistances of these dogs, as given, must be considered as minimal rather than maximal, and do not therefore represent the much larger initial resistances that these strong currents overcame at the first instant of closing the circuit.

As regards differences in resistance between man and the lower animals, they cannot be great, and must be due to analogous causes. In dogs, calves, and horses, the resistance was found to vary between 1,300 and 200,000 ohms, while in man it has been shown to vary from some 600 to some 500,000 ohms. Bones, muscles, saline fluids, viscera, do not differ so much in the human and lower species that these resistances can be said to be due to variation in their composition; but the skins containing these tissues do vary widely in thickness, blood and sweat supply, and hairy and epidermal coverings, not only in various species of animals, but in different parts of any individual of any species. At the same time, minimal resistances do not differ greatly between men, provided similar parts be subjected to the same treatment for the purpose of measurement.

The experiments made by Mr. Kennelly recently for Mr. Edison were conducted upon three hundred persons. The hands were immersed in very dilute KHO as far as the wrist, and every measurement was taken as nearly as possible thirty seconds after the beginning of the passage of the current. No resistance exceeded 2,000 ohms, the average being 1,000. Doubtless the initial resistances, say in the first two or three seconds, would have been vastly higher with the small voltage employed; yet could anyone say that a 1,500 volt continuous current would not have been dangerous to life under these same conditions to every one of these three hundred persons during the first five seconds of contact? And if, instead of a continuous current, a 1,500 volt interrupted current, or 300 "voltaic alternatives" per second from a 1,500 volt dynamo had been used, could anybody bring forward one single fact to prove that death would not have taken place in every instance within ten or fifteen seconds?

These facts have been adduced by the writer from an impartial stand-point, for he would disclaim looking with any favor upon electrothanasia as an ideal method of legal execution; and, indeed, is opposed to it, but upon other grounds than its uncertainty.

It is absolutely certain, if the apparatus and circuit are in perfect order. But the tetanic rigidity into which the victim is always thrown, the relaxation of the sphincters of the bladder and rectum generally occurring during the contact, and the necessity of extraordinary care in the arrangement of the apparatus by an expert electrician, render it far from a desirable means for the legal extinction of human life.

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## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 11, to August 17, 1889.*

By direction of the Secretary of War a board of medical officers, to consist of Lieutenant-Colonel ANTHONY HEGER, Surgeon; Captain JOHN O'SKINNER and Captain JAMES C. MORRILL, Assistant Surgeons, will assemble at the U. S. Military Academy, West Point, N. Y., on August 25, 1889, or as soon thereafter as practicable, to examine into the physical qualifications of the candidates for admission to the Academy. Par. 9, S. O. 185, A. G. O., August 12, 1889.

GARDNER, WILLIAM H., Major and Surgeon, Washington Barracks, is hereby granted leave of absence for one month. Par. 1, S. O. 183, Headquarters Division of the Atlantic, Governor's Island, New York City, August 13, 1889.

MATTHEWS, WASHINGTON, Major and Surgeon. Promoted to Surgeon, with rank of Major, to take effect from the 10th day of July, 1889, vice Town, promoted. War Department, Washington, D. C., August 14, 1889.

HAVARD, VALERY, Captain and Assistant Surgeon, is granted leave of absence for one month, to take effect about October 1, 1889, with permission to apply to Division Headquarters for an extension of one month. Par. 3, S. O. 86, Department of Dakota, St. Paul, August 10, 1889.

PORTER, JOSEPH Y., Captain and Assistant Surgeon, now at Jacksonville, Fla., by direction of the Secretary of War will, if the state of his health permit, proceed to Jackson Barracks, La., and report to the commanding officer of that post for temporary duty, and by letter to the commanding general, Division of the Atlantic. Par. 16, S. O. 186, A. G. O., August 13, 1889.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 17, 1889.*

ROGERS, B. F., Surgeon. Detached from U. S. S. Alliance and wait orders.

HARMON, G. E. H., Surgeon. Ordered to the U. S. S. Constellation, August 13th.

LOWNDES, C. H. T., Assistant Surgeon. Ordered to the U. S. S. Constellation, August 13th.

DECKER, C. J., Assistant Surgeon. Detached from U. S. S. Lancaster, and granted four months' leave of absence.

BALDWIN, L. B., Passed Assistant Surgeon. Detached from U. S. S. Ranger, ordered home, and wait orders.

HARVEY, H. P., Surgeon. Ordered to the U. S. S. Ranger.

LOVERING, P. A., Passed Assistant Surgeon. Ordered to the Receiving Ship Wabash, at Boston Navy Yard.

SIEGFRIED, C. A., Surgeon. Ordered to the Naval Station at New London, Conn.

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FRENCH MODESTY.—A Parisian medical society recently appointed a committee to consider the question of a universal language of science. The report of the committee was presented in the form of three questions, upon which the society voted as follows: "Shall a universal language be adopted?" "Yes." "Ought this to be one of the dead languages?" "No." "Shall it be the French language?" "Yes."

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## Original Articles.

### ON THE COMPARATIVE STUDY OF DISEASES OF THE NERVOUS SYSTEM.

BEING THE ADDRESS IN MEDICINE DELIVERED BEFORE THE BRITISH MEDICAL ASSOCIATION.

BY J. HUGHLINGS JACKSON, M.D., F.R.C.P., LL.D., F.R.S.

PHYSICIAN TO THE LONDON HOSPITAL, AND TO THE NATIONAL HOSPITAL FOR THE PARALYZED AND EPILEPTIC.

FIRST of all, I beg the President and Council of this great Medical Association to accept my heartiest thanks for the very high honor they have conferred on me in asking me to give this address. I have had much difficulty in choosing a subject, the difficulty being mainly in finding one on which I thought I had something to say, and on which I had not already said the little I was capable of. Finally, I concluded to consider once more, with all the care I could and with as little recapitulation as possible, the most important of general doctrines bearing on the science of medicine.

We have multitudes of facts, but we require, as they accumulate, organizations of them into higher knowledge; we require generalizations and working hypotheses. We have, so to speak, ready made for us, the hypothesis of evolution, one verified in numerous different cases. Huxley[1] writes: "The peculiar merit of our epoch is that it has shown how these hypotheses [one of which is the doctrine of evolution] connect a vast number of seemingly independent partial generalizations; that it has given them that precision of expression which is necessary for their exact verification; and that it has practically proved their value as guides to the discovery of new truth." I do not advocate the application of the doctrine of evolution to the classification of diseases for practical purposes, but believe, nevertheless, that its indirect value to clinical medicine is very great indeed, and that before long it will be directly helpful. Thinking that for clinical purposes we must continue to have arrangements of cases "by type."[2] I once more urge that we should also attempt a parallel study of diseases as they are dissolutions—that is, reversals of evolution. By the latter means I hope that we shall be able to make broad and yet precise generalizations of great value. The man who puts two old facts in new and more realistic order deserves praise as certainly as does the man who discovers a new one. There is an originality of method. Gaskell has found out much that is new in his recent well-known researches on the nervous system; but I imagine that the greatest merit of his work is that he has made fruitful generalizations, and has set many things long ill assorted in realistic order. By doing this he will have put a stop to certain loose explanations in which the sympathetic figures. I do not pretend to be able to define generalization as that term is used in science. May I say that it is the classification of things which are for the most part very different by some fundamental peculiarity each of them has? It is easy to see how one may be misunderstood when making generalizations after this fashion; one may be supposed to overlook important differences—not to be putting things in order but to be trying to organize confusion. I will give a series of illustrations of the method spoken of, because it is one I follow largely in this address.

1.[1] A patient of mine had lost one hand, but, as is most often the case, he had, representing it, a phantom hand; this was always in a position as if encircling a vessel; the member had been blown off when he was holding a cylinder to be charged with an explosive. 2. An aphasic patient of mine frequently uttered, on being questioned, but with no relevance to anything going on, "Come on," or "Come on to me;" he was a signalman, and had been taken aphasic and hemiplegic on the railway in front of his box; the presumption is that he was saying, or was about to say, those words when taken ill. 3. An epileptic patient told me that his first fit occurred when he was a soldier, and at the very time he was "numbering off;" after every subsequent fit, and before regaining consciousness, he used to count; this we observed when he was in hospital. 4. A woman I was asked to see in a surgical ward in the London Hospital, who had fractured her skull by a fall when laying down oil-cloth on a staircase, kept, during partial unconsciousness a few hours before death, manipulating the counterpane of her bed. We supposed this to be a sort of continuance of the action of laying down the oil-cloth; the patient desisted, for a time at least, when the nurse assured her that "it was properly laid."

These illustrations will appear incoherently grouped to those who do not happen to see that the intention in stating them is not to deal with stumps, aphasia, epilepsy, and injury to the head, but to make a basis for the discovery of the reason why there is a fixation of states, which are normally temporary, upon the sudden occurrence of lesions of the nervous system;[2] very different cases are chosen in order to make the basis a broad one. This is by way of illustration, but I hope that such facts are of some value toward the methodical study of persisting delusions. I suggest, quite hypothetically, that some very grotesque delusions may be a fixation of absurd beliefs in dreams in cases where a sudden morbid change, or sudden increase of it, has occurred in the brain during sleep—such delusions as one mentioned to me by Dr. Savage; a patient of his believed himself to be a jar of Indian pickles.

Before going further, I must mention that most valuable work has been done by Anstie, Ross, Ribot, Mortimer, Granville, Mercier, and Bland Sutton in the application of the principles of evolution to normal and abnormal conditions of man's body. We ought not to forget that nearly half a century ago Laycock extended the doctrine of reflex action to the brain, and that so long ago as 1829 Von Baer announced "his great discovery, that the progressive change from homogeneity to heterogeneity is the change in which organic evolution essentially con-

[1] Reign of Queen Victoria, vol. ii., p. 340.
[2] British Medical Journal, July 14, 1888.

[1] In his magnificent work, Diseases and Injuries of Nerves, 1872, p. 355, Weir Mitchell writes as follows: "E. C——, aged thirty-two, lost his left arm, five inches below the shoulder, nine years ago. When shot, the thumb turned into the palm, and continued in this state of spasm, so that when, six hours later, the limb was removed, the nail of the thumb had cut into the palm. He several times lifted the thumb, but it always returned to the same spot. For nine years the absent thumb still remains cutting into the palm." After speaking of various positions of phantom parts of limbs, Weir Mitchell writes (*op. cit.*, p. 354): "Another class has the hand constantly in some painful position which it occupied before the operation, so that the last real sensation is so stamped upon the sensorium as to forbid its erasure by any future impression."

[2] In the case of No. 1 the hand was blown off at a time when particular nervous arrangements of the nervous centres, from highest to lowest, were being discharged. The persisting memory, so to call it, of the last position of the lost hand implies a persisting state in the highest centres. Why that state remained permanently it is for me impossible to say.

sists."[1] I need scarcely mention the name of Herbert Spencer, except to express my vast indebtedness to him; the first edition of his "Principles of Psychology" appeared so long ago as 1855, five years before the publication of the "Origin of Species."

In the doctrine of evolution we have principles which no doubt apply to the whole organism and to every one of its diseases; it is at once a means of scientific classification and a guide to the discovery of new facts. Limiting myself in this address to the nervous system, I submit that ultimately those principles will help us to a more realistic explanation of symptomatologies so different as those in a case of paralysis of an external rectus and those in cases of insanity. The comparative study of nervous diseases—the study of them as dissolutions—is a process of generalization. To attempt this generalization without prior careful analysis of the things concerned, needing minute clinical study of individual cases, is not likely to lead to anything of permanent value. To compare and contrast the mere local lesions and the symptoms directly dependent on them only in the two cases instanced is not good method. The symptomatology of each must be regarded as the result of a flaw in an evolutionary whole. It is one merit of the method I am urging that it deals not only with the local lesion—with that, I mean, which disease (in the strict sense of pathological change) causes—which alone is dissolution, but also with the healthy rest; that is, it takes into account the evolution going on in the undamaged remainder of the nervous system. The full symptomatology of a case of ocular paralysis is not to be intelligently stated even unless activities of healthy centres, including the highest (all centres above the peripheral lesion) are considered; and a case of insanity is not properly analyzed unless undiseased parts of the highest centres and all lower centres are considered (*vide infra*). In the two cases a great part of the symptomatology is owing to over-activity of perfectly healthy nervous arrangements; the erroneous projection and diplopia in the first, and the illusions, delusions, and all other positive mental symptoms in the second. To insist on the principle implied, I say in recapitulation that every case of nervous disease is a problem, not only in dissolution but in evolution: in example, he who is studying the physical process during an illusion in an insane patient, is as certainly dealing with evolution as he is who is studying that process during the perception of a healthy person.

Before I give particular illustrations of dissolution, I will make brief statements concerning some different aspects of the one process evolution, of which dissolution is the reversal: (1) evolution is a passage from the most to the least organized. I must stay to remark on the term organized. "Highly organized," is frequently used synonymously with "very complex;" but by degrees of organization I mean degrees of perfection of union and certainty of action of nervous elements with one another. Using the term organized in this sense, I say that the highest cerebral centres are the least organized (the "most helpless centres"), although they are the most complex, whereas the lowest centres are the most organized, although the least complex. In other words, we may say (2) that the evolutionary ascent is from the least to the most modifiable. If the highest centres were not modifiable, we should be very simple machines; we should make no acquirements. If the lowest ("vital") centres were to become as modifiable as the highest are, life would cease. It is only another aspect of this statement—that the progress in evolution is from the most to the least organized—to say (3) that the passage is from the most automatic to the most voluntary (properly, "to the least automatic"); equivalently, it is (4) from structures inherited most nearly perfected (acquirements of the race and of prehuman beings), such as the cardiac centres in the medulla oblongata (some centres of the lowest level of evolution)—from those comparatively perfectly evolved at birth—to those of the highest nervous arrangements of the highest centres, which are only incipient nervous structures, and which are evolving during the latest new mental states; (5) the process of evolution is from the simple to the complex; (6) from the general to the special. Reversals of evolution are effected by pathological processes, and are called dissolutions; they are reductions from the least organized, etc., toward the most organized, etc.

I can give no good illustrations of dissolution from lesions at the periphery. Nor can much that is definite be said in this regard of lesions of the spinal system (lowest level of evolution of the central nervous system). Yet we may say that in most cases of the ordinary form of progressive muscular atrophy the muscles first morbidly affected are the small muscles of the hand, and that in most cases of Duchenne's bulbar paralysis the tongue is first invaded. In these two cases the most special parts, in manipulation and in articulation respectively, fail first. Going higher up in the nervous system we find definite and certain illustrations. It is plain that hemiplegia from disease in the mid-cerebral region is a failure in the order from "most voluntary" toward most automatic; whether chorea and paralysis agitans are due to morbid changes in the region mentioned or not they certainly illustrate dissolution in the very same way as hemiplegia does. The numerous different phenomena of cases of aphasia are the best illustrations of the process of dissolution, but I have stated them several times.[1]

Dr. Donald MacAlister has pointed out, in his admirable Croonian Lectures,[2] that the febrile process exemplifies dissolution. "The thermal nervous system," to use his words, "has three parts; let us call them briefly the thermotaxic or adjusting, the thermogenic or producing, and the thermolytic or discharging mechanism. . . . In the ascending scale of evolution," he continues, "we seem to rise from the thermolytic to the thermogenic, and thence to the thermotaxic nervous system." He considers fever as a process of dissolution, and, next, recovery from fever as a process of re-evolution. Some, presumably all, cases of insanity illustrate dissolution. I will content myself with quoting very briefly from that part of Dr. Savage's important work, "Insanity," where he deals with general paralysis. In these cases, he writes, that the disease "affects first the highest intellectual and motor acquirements is undoubted." He says, too, "Both Dr. Maudsley and I have independently taught that in this progressive degeneration the last and highest acquirements fail first." . . . We have very good illustrations of dissolution in the symptomatology of drunkenness. Long ago Charles Bell wrote:[3] "It is a fact familiar to pathologists that where debility arises from affection of the brain, the influence is greatest on those muscles which are, in their natural condition, most under the command of the will. We may perceive this in the progressive stages of debility of the drunkard, when successively the muscles of the tongue, the eyes, the face, the limbs, become unmanageable; and under the same circumstances, the muscles which have a double office, as those of the chest, lose their voluntary motions and retain their involuntary motions; the force of the arms is gone long before the action of breathing is affected."[4] Lauder Brunton, in his "Pharmacology," third edition, p. 146, writes: "In the action of such poisons as alcohol, the nervous system appears to be paralyzed in inverse order of its development; the highest centres going first, next the middle, and then the lowest. After this comes paralysis of the motor nerves, and, lastly, of the muscles themselves."

I now give a curious illustration. We see, not dissolution, but, this time, evolution illustrated by certain surgical cases—by the order of persistence of spectral repre-

[1] Fiske: Cosmic Philosophy, vol. i., p. 342.

[1] British Medical Journal, March 29, 1884.
[2] On the Nature of Fever, Lancet, March 26, 1887.
[3] Nervous System, 3d ed., p. 165.
[4] My friend and colleague, Dr. Gowers, drew my attention to this passage: I gave the quotation, Lancet, February 15, 1873 (On the Anatomical and Physiological Localization of Movements in the Brain).

sentatives of parts of limbs lost by amputation. Weir Mitchell writes:[1] "The limb is rarely felt as a whole; nearly always the foot or the hand is the part more distinctly recognized, and, on careful questioning, we learn that the fingers and toes are readily perceived; next to these the thumb; then more rarely the ankle or wrist; and, still less frequently, the elbow and knee. Very often some fingers are best felt, especially the forefinger." This, the order in which the lost parts remain most vividly represented in consciousness, is almost exactly the order in which the parts physical do fail in dissolution of the nervous system.

Speaking most generally, and ignoring some very obvious qualifications, we may say that the hemiplegic man is reduced to a more automatic condition of movement, the aphasic to a more automatic condition of language, and the insane man to a more automatic condition of mind. There is a reduction to a lower level of evolution in each series.[2] Dissolution is exemplified in each of the following exceedingly different symptoms: 1. Most epileptiform seizures begin in the thumb or index finger, or in both; these digits are the most special parts of the body. 2. The words most often left to an aphasic who is, for the rest, entirely speechless, are "yes," or "no," or both; these "words," as I called them, are the most general of all propositions. 3. The aphasic may be unable to put out his tongue when told, although he moves it well in other ways; loss of the "most voluntary" movement, with persistence of the more automatic movements of that organ. 4. In what is called word-blindness there is inability to recognize the latest learned, and very arbitrary, "objects," letters, and words, while the recognition of objects, properly so-called, is unimpaired, or comparatively so. 5. In early stages of atrophy of the brain, say, in that occurring so often after hemiplegia in men past middle age, there is defect of memory for recent events with seemingly good remembrance for long past circumstances, and there is at the same time loss or defect of the "finest," latest acquired emotions, with obtrusion of the coarser and earlier acquired. Different as these five examples are, they are alike in that dissolution is definitely illustrated by each of them.

I here stay to remark on what I think is the evolutionist's measure of mind. Opinions will differ vastly as to who are the men of greatest mental elevation. Some would put Napoleons highest, others Shakespeares and Goethes. But evolution, I think, supplies us with a scientific measure, which ignores superior and inferior, as these terms are ordinarily used with regard to men's minds. This measure is according to the intellectual and emotional differences between lower and higher races of mankind, and to those between children and adults. Higher races of men and adults have the latest acquired faculties, and these, according to Spencer, are, intellectually, the power of abstract reasoning, and, emotionally, the sentiment of justice. So that, instead of saying that a person is superior or inferior to most other men, we may say that he has more or less of the latest faculties of the race that most other men have. I by no means think that to have the latest intellectual faculties most highly developed is the same thing as being most endowed intellectually. I submit that the poet inherits in some ways more of the earlier acquired faculties of the race, and has less of the latest than the scientific man has; yet no one would say that poets are mentally inferior to scientific men. In the cases of atrophy of the brain recently instanced, there first occurs defect of the two "latest" faculties I mentioned; the patient easily becomes confused by consideration of things of a little complexity, and of which the elements are not before him, and is often peevish and selfish.

[1] Op. cit., p. 350.

[2] Dr. Mortimer Granville, who has for some years applied the doctrine of dissolution, uses the term "denudation," and takes note of the "exposure" of the lower layers, which I call the lower levels of evolution, remaining.

I admit that I have selected cases which will suit my purpose best. Some cases seemingly exceptional are not so. It is not meant that in every case of nervous disease the most voluntary of all parts of the body suffer first and most. Were that so all nervous diseases would affect first and most the thumb and index-finger. The word voluntary, a psychological term, is not the right word to use when speaking of physical processes. The progress of dissolution, properly stated on this aspect, is from the least automatic toward the most automatic. And in disease of any centre it is only supposed that the "most voluntary" (least automatic) parts represented by that centre suffer first and most. In an epileptiform seizure, beginning in the leg, the great toe is nearly always the part first in spasm; the "most voluntary" part of the leg suffers first and most from the cortical discharge.

To take a more extreme illustration. It may be said that the symptoms from morbid changes in the cerebellum do not accord with statements made as to the process of dissolution. I believe that all the skeletal muscles are represented in the cerebrum in one set of movements, and that all of them are represented in the cerebellum in another set of movements. In rough and only partial statement the order of representation in the cerebrum is of movements of the arm, leg, and spine. This agrees with a popular doctrine, for the order is that of the degree in which the three parts of the body are "under command of the will." The order of representation in the cerebellum is of movements of the spine, leg, and arm. This accords with the current doctrine that the cerebellum co-ordinates (*vide infra*) movements of locomotion. (I presume that a man's spine must be braced up before his legs can come into play in walking.) So that, ignoring the term voluntary on account of its psychological implications, and using the term special, we say that the arm is the most special part in the cerebral series, and fails first in disease of the brain proper; and that the back is the most special part in the cerebellar series, and fails first in disease of the cerebellum.

I now try to consider evolution and dissolution more methodically. I submit the following statements: By aid of the doctrine of evolution we shall discover a harmony or rational parallelism between (1) psychology, (2) the anatomy and physiology of the nervous system, and (3) that important part of clinical medicine which deals with diseases of this system. It will help us toward a comparative study of all diseases of the nervous system, and in particular to the realistic comparison and contrast of cases of insanity—diseases of the highest cerebral centres—with diseases of lower centres.

The doctrine of evolution implies that the whole nervous system has a sensori-motor constitution. It has long seemed to me that only on this basis can we show how it is that such very different sets of symptoms as convulsion and insanity (and, as I think, paralysis) are owing to disease of the cerebrum proper. The assignment of such a constitution to the whole of the nervous system shows that, when I speak of diseases of that system, reference, explicit or implicit, is always to parts of the body. (By "parts of the body," I mean non-nervous parts.) It is a merit of the method that parts of the body are necessarily taken into account in all nervous lesions. The nervous system by itself is a functional nothing; it is only something as representing parts of the body.

I carry the doctrine of sensori-motor constitution of the nervous system further than anyone else, so far as I know, since I urge that the highest cerebral centres (the "organ of mind" or anatomical substrata of consciousness) represent parts of the body as certainly as that of the lumbar enlargement does; they are evolved out of lower centres, which, as everybody admits, do represent parts of the body. No one denies that the highest centres contain sensory elements; no one denies that very many, if not all, parts of the body are represented sensorily in the "organ of mind." But to their representation motorily in that organ there seems to be great objection. It is not

many years since the ascription of motor representation to any part of the cerebrum proper was denied. It is agreed upon now that some convolutions (Rolandic region) contain motor elements—and, according to some, nothing else. The præ-frontal lobes (convolutions in front of the Rolandic region) are said to be, or to be part of, the "mental centres." I admit that they are a great division of these "mental centres," but say that they are motor too—that they are the highest motor centres. And Ferrier, who agrees with me in thinking that these lobes are motor, finds that, after their ablation in monkeys, there is degeneration of fibres "descending" as low as the medulla oblongata, but no lower; this is proof positive that the præ-frontal lobes are, at least to some extent, motor. I will here state in outline what I believe to be the hierarchy of the motor centres, only alluding to that of the sensory series and ignoring the cerebellum.

1. The anterior spinal horns and their homologues higher up (nuclei of motor cranial nerves) are the lowest motor centres (both of the cerebral and cerebellar systems). These lowest motor centres, with the corresponding sensory centres, make up the lowest level of evolution of the central nervous system.

2. The convolutions of the Rolandic region are the middle motor centres of the cerebral system. With the corresponding sensory centres they make up the second or middle level of the central nervous system.

3. The præ-frontal lobes are the highest motor centres of the cerebral system. With the corresponding sensory centres they make up the third or highest level of the central nervous system, that is, "the organ of mind."

Here I may best remark on the differences between muscles and movements, a matter of vast importance. To speak figuratively, the central nervous system knows nothing of muscles, it only knows movements. I have already stated the speculation that all muscles of the skeleton are represented in the cerebrum in one set of movements, and all in the cerebellum in another set. I here give another illustration simplifying it in several ways. There are, we shall say, thirty muscles of the hand; these are represented in the nervous centres in thousands of different combinations—that is, as very many movements; it is just as many chords, musical expressions, and tunes can be made out of a few notes. I now speak of the representation of the muscles of the hand in the three orders of motor centres just spoken of. 1. In some lowest motor centres (anterior horns) which are evolved out of the muscles of the hand, these muscles are represented in numerous different combinations, as simple and very general movements. 2. In the middle motor centres (Rolandic region) which are evolved out of the lowest motor centres, the same muscles are represented (re-represented) in still more numerous different combinations, as complex and special movements. 3. In the highest motor centres (præ-frontal lobes), which are evolved out of the middle motor centres, the same muscles are represented (re-re-represented) in innumerable different combinations, as most complex and most special movements. Anticipating in part what is to come, the last representation is of "finest" movements of the hands in the anatomical substrata of tactual ideas and of other mental states.

I fear the doctrine of sensori-motor constitution of the "mental centres" will be a hard one to many of my medical brethren. My contention, nevertheless, is that the highest centres ("organ of mind") have no other function than that of representing or co-ordinating parts of the body; bearing in mind the subordinate centres, we may say that they represent parts of the body triply indirectly. Function is a physiological term, and it is, I submit, improper to speak of states of consciousness as being "functions of the brain;" we can only say that states of consciousness attend functioning of the brain, of those parts of it, at least, which are the highest cerebral centres. We can only affirm concomitance, and why immaterial processes always go along with the material processes of our brain is, as yet at any rate, inexplicable. The late Professor Clifford wrote:[1] "I may very well say that among the physical facts which go along at the same time with mental facts, there are forces at work. That is perfectly true, but the two things are on utterly different platforms, the physical facts go along by themselves, and the mental facts go along by themselves. There is a parallelism between them, but no interference of one with the other."

It is neither more nor less easy to understand the nature of the relation of the two utterly different and yet concomitant things if the physical thing, the "organ of mind," has a sensori-motor constitution, than it is on any other hypothesis as to the constitution of that organ. Here is an express repudiation of any intention on my part to attempt to explain psychical states by anatomico-physiological states. It is not the mind, but the physical basis of mind, which is a product of evolution; it is the organ of mind, not the mind, which, being an evolution out of the rest of the body, is representative of it. When tracing an evolutionary ascent from the muscles of the hand to the highest cerebral centres nothing was said even remotely implying that the most complex, etc., representation of these muscles became, or became part of, tactual ideas; it was only said that this most complex, etc., representation was part of the physical basis of those ideas. I know of no evolutionist of repute who has attempted the marvellous feat of "getting the mind out of the body." For my part, I am content with "getting" the organ of mind out of the rest of the body.

I contend that the highest centres represent all parts of the body, literally all parts supplied by nerves—not only sensory regions and muscles of such parts as eyes and hands ("organs of special sense"), but of legs and arms, of internal viscera, of external viscera (as sweat-glands), and all the rest. Under the head of movements, one takes in effects produced in glands by what the physiologist calls their motor nerves, and also negative movements, so to call them, that is, effects on musculatures produced through the intermediation of inhibitory nerves. The highest centres are centres of universal representation or co-ordination. When dealing with the physical condition in coma, Dr. Mercier writes: "Thus we arrive at this most important conclusion: that the highest nervous processes, which form the substrata of the most elaborate mental operations, represent at the same time not only the most elaborate forms of conduct and muscular movements, but also *every part of the organism* [italics in original] in some degree.[2] Ribot, in his remarkable and most valuable (work on "Personality," writes: "Nous pourrons dire que la couche corticale représente toutes les formes de l'activité nerveuse; viscérale, musculaire, tactile, visuelle, significatrice."

No one doubts that the lowest level of evolution (roughly, pons, medulla, and cord) represents all parts of the body; it is certain that motor effects in nearly all parts of the body are produced by discharges of the so-called "motor region" (motor division of the middle level). I am only going a step further when I suggest that the highest level (although "I for mind" in the sense of being the physical basis of mind) is also universally representing. A higher level of evolution is, so to put it, the lower "raised to a higher power." Each of the levels being universally representing their evolutionary differences are in the degree of complexity, etc., in which each represents all parts of the body.

The phenomena of an ordinary epileptic fit, epilepsy proper (I am not speaking of epileptiform seizures, which are owing to sudden discharges beginning in parts of the mid-cortical convolutions, or, as I call them, middle motor centres), seem to me to accord with the hypothesis of sensori-motor constitution of the highest centres and of their universality of representation.[3] Cessation of

[1] Fortnightly Review, December, 1874, p. 728.
[2] Brain, January, 1887.
[3] I have considered in detail the phenomena of epileptiform paroxysms with reference to the hypothesis of universal representations by the highest cerebral centres in the Bowman Lecture, Trans. Oph. Soc., vol. vi.

consciousness being the first, or a very early, psychical event in the paroxysm, I presume that the first correlative physical event must be a discharge (here a sudden and excessive one), beginning in some part of the physical basis of consciousness (highest centres). Now, it is certain that in a severe epileptic fit there are effects produced in nearly all, presumably in all, parts of the body, and obviously the effects we see are motor or their equivalents. In a slight fit of epilepsy (*le petit mal*), the effects are widely distributed; they are so various as pallor of face, increase of saliva, arrest of respiration, and emission of urine. The effects are crude, but this does not invalidate them as witnesses to the representation of parts of the body in the highest cerebral centres; the process by which they are produced is a crude one; the "epileptic discharge" differs from normal discharges in being sudden, excessive, and rapid; and also, I submit, in starting in some small part of the highest centres (a "discharging lesion" or physiological fulminate").

That artificially induced discharges of parts of the Rolandic region (middle motor centres of the cerebral system) produce effects in nearly all parts of the body, visceral included, is demonstrable. No one doubts that in this region all the skeletal muscles are represented in movements; but the organic parts also, presumably all of them, are represented in it. If curara be given to a dog, its skeletal muscles are, by paralysis of their motor nerve-endings, put out of reach of the effects of central discharges; upon Faradic excitation of the curarized animal's sigmoid gyrus (artificial respiration being kept up) the fit is limited to the organic parts; we witness effects on viscera or their apparatus which we can never observe in man; the dog's abdomen having been opened, there are seen, among other effects, increased flow of bile, a little paling of the kidneys, and contraction of the spleen. In this case the artificial discharge is started in part of the middle motor centres; but, at any rate, that universal effects are so produced gives some countenance to the supposition that the convolutions in front of these centres, highest motor centres, are also universally representing.

Another way of stating the function of the highest cerebral centres, is to say that while a man is having states of consciousness (in artificial analysis, Willing, Remembering, Reasoning, and Feeling), there are occurring correlatively with those purely psychical states the physical things, slight discharges of nervous arrangements of his highest centres representing the whole of his body. In differing states of consciousness different nervous arrangements of these centres representing or co-ordinating different particular parts of his body more than all the rest will be engaged.

It is just here that the harmony of psychology with the anatomy and physiology of the nervous system is, I think, to be best seen; it is here, too, that the basis for the comparative study of cases of insanity (diseases of the highest centres) with diseases of lower centres is established. I have elsewhere[1] analyzed very briefly, and, I admit, very imperfectly, the highest cerebral centres considered as they form the physical basis of consciousness.[2] The conclusion from that analysis was that the highest cerebral centres are sensori-motor arrangements representing all parts of the organism in most complex, etc., ways—a conclusion agreeing with the hypothesis of evolution, and strictly according with the phenomena of epileptic paroxysms. If that analysis be valid, there is no difficulty in seeing how it is that epilepsy proper is a disease of the "organ of mind." The epileptic convulsion is a brutal development of the most complex, etc., movements represented in the anatomical substrata of the four "faculties" mentioned, along with a development of the less complex, etc., movements represented by the middle and lowest motor centres.

I will here analyze the physical basis of but one mental state, artificializing largely. There is no such thing as a separate centre for tactual ideas, but for simplicity of exposition, we may imagine some part of the highest centres to be such a centre; popularly, it is a centre for objects explored by the hands. When we actually explore an object the skin of our fingers and the muscles of our hands are engaged; and at the same time all sensory centres from lowest to highest, and all motor centres from highest to lowest. The tactual centre represents the skin and muscles of the part of the periphery mentioned—is sensori-motor in that way. The sensory element in the tactual centre corresponds to the surface of objects (the homologue of color in visual perceptions and ideas), the motor element to their extension (shape and size). I have already mentioned the motor element when speaking of the hierarchy of motor centres. I illustrated by the representation of the muscles of the hand; their final representation (re-re-representation) in the highest centres is the motor element in the tactual centre.

During the actual exploration of an object there is a vivid mental state; we may call it a tactual perception. Now suppose we think of the object when it is absent, popularly, "have an idea of it;" there is then a faint mental state, a tactual idea. In both cases the centre for tactual ideas is engaged; a tactual idea is a faint tactual perception, and a tactual perception is a vivid tactual idea; the centre for tactual ideation and for tactual perception is one; it is made up of the same sensori-motor arrangements of the highest centres.

But it may be said that while thinking of the object there is no movement, and it may be averred that the correlative physical process is sensory only; but the sensory element corresponds only to surface; the extension requires accounting for; the object thought of has shape and size. I submit that there is corresponding to extension slight discharge of the motor nervous arrangements of the tactual centre, which, when strongly discharged in the actual exploration, did move the hand; there is "nascent movement." The physical difference more fully is that (1) during exploration of the object, having a tactual perception, the tactual centre is strongly discharged from the sensory periphery, and reacts upon the muscular periphery; there is strong and complete sensori-motor action, all orders of centres being engaged; while (2) during thinking of the object, having a tactual idea, the tactual centre is slightly discharged, and the discharge is limited to the centre; there is weak and incomplete sensori-motor action; the highest centres alone are engaged. In both cases there is sensori-motor action, in both the same nervous arrangements of the highest centres—those representing the skin of the fingers and the hand muscles—are discharged. So far for two degrees of normal discharges of the tactual centre. Now let us suppose that a sudden, excessive, and rapid discharge (such a discharge as that which produces an ordinary epileptic fit) begins in some part of the tactual centre, and soon involves the whole of it. We should then have a miniature epileptic fit. During the onset there would be tingling referred to the fingers; there would be (middle and lowest centres being subordinately engaged) also convulsion of the hand. No tactual ideas would arise during such a discharge.

Asking you to accept provisionally the conclusion that the anatomical substrata of will, memory, reason, and emotion (together states of consciousness), represent parts of the body (together, all parts of it, sensorily and motorily), in most complex, etc., ways, I go on to speak of the relevance of that hypothesis to the study of some important diseases. There is no difficulty in understanding that insanity arises from disease of the organ of mind. But we have to face this question. How is it that the superficially seeming quite different phenomena,

[1] Croonian Lectures, Journal, April 12, 1884.

[2] I then spoke of centres for will, memory, reason, and emotion, the artificially distinguished elements of consciousness. It was a mere artifice to imagine such centres. The evolutionist does not try to localize volition or any other mental faculty in the brain; he is content with attempting to localize parts of the body in the highest cerebral centres. For my part, I think there are not in the cortex cerebri any abruptly demarcated centres for any kind of representation. The recent researches of Beevor and Horsley on the mid-cortex seem to me to show that the current hypothesis as to localization is untenable.

1, convulsion with cessation of consciousness (an epileptic fit); and, 2, insanity results from morbid affection of the "organ of mind" (highest centres)? This problem is forced upon us. We cannot consider one of the two by itself, and ought not to try to explain each quite separately. For often enough there is the sequence, an epileptic convulsion with loss of consciousness, and then temporary insanity, for example, epileptic (post-epileptic, I think) mania. Moreover, I believe that paralysis also results from negative states of the highest centres; I submit that it exists in temporary post-epileptic insanities, indeed in every case of insanity.

After epileptic fits there is often insanity. There are two degrees of it; there is, according to the severity of the paroxysm, mania, or coma, physically two depths of dissolution effected by the prior epileptic discharge. I first take coma,[1] which is acute temporary dementia rapidly produced. Here I remark again on the need of distinguishing psychical states from nervous states. If any one compares and contrasts post-epileptic coma as a negative psychical state with a case of paralysis, say hemiplegia, which is a negative physical state, he is attempting a pseudo-comparative study. I submit that the negative affection of consciousness in the comatose patient implies a correlative negative state of more or less of his highest centres which causes paralysis. It is not the negative affection of consciousness, but the paralysis from the negative state of elements of the highest centres which that negative affection of consciousness implies, which we can reasonably compare and contrast with the hemiplegia. It is true that in post-epileptic coma there is not limited, regional paralysis, such as hemiplegia or monoplegia; there is supposed to be some universal, I do not mean total, paralysis. I am not speaking of paralysis of the muscles. There is loss of some movements of all parts of the body. That there is some universal paralysis after a severe epileptic fit accords with the hypothesis of universal representation by the highest centres, and is in harmony with the universality of the convulsion in the prior paroxysm. If a man cannot move an arm after a convulsion limited to that limb, no one hesitates to call that condition a paralytic one. Why then should not the name be given to universal motionlessness after a universal convulsion? To say that the patient who is unconscious does not move because he is unconscious is to give an explanation which explains nothing. Beevor has noted lateral deviation of the eyes after epileptic fits; surely this is indirect evidence of some paralysis. Moreover, Westphal, Gowers, and Beevor have observed alterations of "deep reflexes" after such seizures, and this too accords with the view that the man comatose after such seizures is paralyzed. Here let me say, once for all, that no doubt in post-epileptic coma, besides paralysis from loss of most complex movements represented in the highest centres, there will be after a severe fit some paralysis from loss of less complex movements represented in the middle motor centres, and some from loss of simplest movements represented in the lowest motor centres. For in the prior severe epileptic fit all centres are engaged; there is an excessive process from highest centres to muscles. Indeed (Westphal, Gowers, and Beevor), after some epileptic fits there is temporary loss of the knee-jerks, showing exhaustion of the lumbar centres, which are some of the lowest centres.

The conclusion about post-epileptic coma is very important, for from it we make the hypothesis that there is paralysis in all cases of insanity, a widespread or universal paralysis—that is, paralysis of a kind corresponding to the universality of representation of the body by the highest centres, which are certainly diseased in cases of insanity. I must now briefly analyze these cases of disease of the highest centres.

[1] I would refer all interested in the application of the doctrine of evolution to the investigation of diseases of the nervous system to Dr. Mercier's masterly article "Coma" (Brain, January, 1887), a most important contribution to the methodical study of insanity.

In cases of insanity the mental condition is, as Dr. Monro long ago insisted, duplex; it is of two opposite elements, one negative and one positive; cases of perfect dementia, if there be such a thing, where the mental condition is entirely negative, are excepted. Ignoring perfect dementia, there is always some negative affection of consciousness (negative mental symptoms) in cases of insanity; there are degrees from slightest defect of it, such as that existing in trifling confusion of thought, to nearly complete loss of it, as in dementia, or in coma, which is acute dementia. We must not speak as if there were no degrees between perfect consciousness and unconsciousness. There are also positive, often superpositive, mental symptoms coexisting with the negative. The defect of consciousness and the consciousness remaining (that is what I just called the positive mental symptoms) in cases of insanity vary inversely. When the positive mental symptoms are many and elaborate, and the defect of consciousness therefore little, the former may attract exclusive attention. Slight degrees of defect of consciousness are often disregarded. A patient may be said to be "perfectly conscious," and be said to have illusions, delusions, etc., as if these positive mental symptoms were his sole symptoms; but surely these positive symptoms of themselves imply the co-existing negative states of some non-recognition and some non-reasoning, that is, they really imply some co-existing defect of consciousness. A patient may be said to be "perfectly conscious," although, when his symptoms are given, he is described as apathetic, as forgetful, as confused, and as having lost regard for others; these popular statements are nearly, if not quite, equivalent to the technical statements that the patient is defective in will, memory, reason, and motion —in other words, that he *is* defectively conscious.

The correlative physical condition of the highest centres in cases of insanity is correspondingly duplex. The negative affection of consciousness implies a negative state of, or of elements of, some nervous arrangements (temporary loss of their function or actual loss of them) of the highest centres. It is this negative state alone which implies paralysis; this alone is dissolution, this alone is the result of disease in the sense of pathological change.

Now for the physical condition corresponding to the positive mental symptoms. As before said, when speaking of the case of paralysis of an external rectus and of cases of insanity, every nervous disease is to be considered as a flaw in an evolutionary whole; and the assertion was then made that great parts of symptomatologies are owing to activities of healthy nervous arrangements. I submit that all the positive mental symptoms in the symptomatology of insanities occur during activities of healthy nervous arrangements remaining in the maimed highest centres; they are, or are parts of, the insane man's mentation; they are, or are signs of, his lowered consciousness; his illusions, as we call them, are his perceptions, and his mental symptoms altogether are lower homologues of his normal mentation, and are his will, memory, reason, and emotion. Putting the matter still otherwise, the positive mental symptoms do not signify dissolution; they signify evolution going on in what disease has spared; they are signs of survival of the fittest states on the lower, but now the highest, level of evolution remaining. The sensori-motor arrangements of this lower level (sub-level of the highest level) may be over-active from loss of control, but this is a physiological abnormality; when I say that they are healthy, I mean that they are untouched by any pathological process; they are in the same case as the heart is when it is beating more frequently after section of the vagus. When a general paralytic believes himself to be Emperor of Europe, I submit that this delusion does not arise during activities of any nervous elements touched by any sort of pathological process; but, on the contrary, that it is framed during activities in what remains of his highest centres, that is to say, in what disease has spared—presumably the posterior lobes and what is left intact of

the anterior. This delusion (his belief) signifies evolution going on in the remains of a mutilated nervous system, as certainly as his beliefs when sane signified evolution going on in an entire nervous system.

I can now consider the other degree of post-epileptic insanity, mania. Manifestly the mental condition is duplex; the patient is "unconscious" (significant of dissolution) as well as furiously acting (evolution going on). By artifice, speaking of layers (sub-levels) of the highest centres, I will suppose that his "unconsciousness" signifies loss of function of the highest two layers of his highest centres. This produces some universal or widespread paralysis, but less than that in post-epileptic coma, in which, a deeper dissolution, we shall imagine that the highest four layers are functionless. But the positive symptoms of the post-epileptic (unconscious and) maniacal patient are owing to over-activity of sensori-motor arrangements of the healthy third layer and of still lower layers of his highest centres; these layers, now his highest, are in great hyperphysiological activity, being uncontrolled by the normal highest two layers which have been suddenly rendered functionless. To say that there is some universal paralysis and yet universal activity is not contradictory. It would be a flat contradiction if it were said that all the patient's muscles were perfectly paralyzed and at the same time in great activity. There is supposed to be loss of some movements of all muscles, with overdevelopment of other movements of those same muscles. Let me consider the matter analogically. Often do we encounter cases of imperfect hemiplegia; here, although clinically we may say that the muscles of the limbs are weak, there is really loss of some movements of all the muscles of the limbs, with persistence of others of those same muscles. I can now consider the sensori-motor constitution of the nervous system more widely.

In order to make a proper comparative study of nervous diseases on a large scale we must reduce different symptoms to a common denomination. The widest assertion in accord with the hypothesis of sensori-motor constitution of the whole nervous system is, that negative lesions of every part of it produce paralysis, sensory or motor, or both, and nothing whatever else.

I will illustrate this dictum further, speaking, however, of motor paralysis only, by which I always mean loss of movements. The assertion made is not a mere truism. For instance, it may be said that negative lesions of the highest cerebral centres cause loss of consciousness. I have been urging that they produce paralysis. I admit that consciousness ceases or diminishes correlatively with loss of function in these centres; but this is not contradictory of the statement that the loss of function causes paralysis. So anxious am I to make out a good case for the sensori-motor constitution of the highest centres that I will state a comparatively simple example of artificially produced insanity, dementia, in a lower animal. When a rabbit's cerebrum is cut out the animal is demented. But movements of every part of its body can be evoked by appropriate incitations. Nevertheless, I declare that the animal is paralyzed. It retains all simple movements represented on the lowest level of evolution, which is pretty much all that is left of its cerebral series. But I submit that it has lost all the more complex movements; all those it no longer makes—all those movements which, in the human subject, we should distinguish as the physical aspect of conduct—and is, therefore, universally paralyzed. Further illustrations must be given in outline and briefly. We ought to analyze symptomatologies very carefully; the positive or super-positive symptoms in any case of negative lesion of any nervous centre cannot possibly result directly from that lesion. For example, the destruction effected by a tumor of the middle lobe of the cerebellum cannot produce the disorder of co-ordination which nevertheless is present in such a case. My submission s that this lesion produces paralysis only; this is first, I think, loss of some movements of the spinal muscles. The positive symptoms, the erratic movements of the legs by which the patient in an early stage of his ailment does somehow get along, are the outcome of over-activity of perfectly healthy nervous arrangements; these are doing more than their normal share of work. So that, comparing and contrasting such a case with one of hemiplegia, the things comparable and contrastable are not the "disorder of co-ordination of locomotor movements" with the hemiplegia; the comparison and contrast are of two cases of paralysis, of loss of movements of the spinal muscles with loss of movements of the limbs. I submit that the formula describing all inco-ordinations with negative lesions of nervous centres is that there is, negatively, loss of some movements, paralysis (this alone being the result of pathological change), with, positively, forcing of some other movements of the same muscles. In saying this, the assertion I made early in this address, and repeated when stating the duplex condition in cases of insanity—that much of the symptomatologies of nervous diseases is owing to activities or over-activities of healthy nervous elements—is implicitly reiterated. Now for other examples of paralysis from negative lesions of centres.

I believe that in what is commonly called tremor in a case of disseminated sclerosis, say of an arm, there is paralysis in the sense of loss of some movements of the limb; the tremor itself is owing to the fact that the excursions of the limb have to be effected by fewer, and presumably less fit, movements than normal. Observe there is loss of some and retention of other movements of the same muscles. The movements by which the limb does carry, although erratically, a cup to the mouth are not blameworthy; they are the best in the evil circumstances, the next best to the normal; they are produced, I suggest, by discharges of healthy nervous arrangements. Let me illustrate the principle involved by a very simple case, and this time by one in which the muscles are paralyzed. When a man has paralysis of the extensors of the forearm, his grasp is weak and the hand moves clumsily in all its uses. But no one thinks of blaming the flexors for the weak grasp and for the clumsy operations of the limb; the flexors are acting faithfully; what they do is badly done because the extensors will not co-operate. So I suggest that in the kind of tremor spoken of, the fault is that certain movements being lost they no longer co-operate with others which, being unaided, move the limb erratically; the real fault, what the pathological change causes, is paralysis. That a patch of sclerosis, if it be an absence of proper nervous elements, can cause any movements, good or bad, is an impossible thing; the tremor has, however, been ascribed to imperfect function of intact axis-cylinders in the parts sclerosed. Now for another example. I have long held that the lesion in cases of aphasia produces paralysis in the sense of loss of complex, etc., movements of the articulatory muscles. It may, however, be urged that the articulatory muscles move well; so they do in simple operations, but they never move so as to make articulations (syllables). I have so recently dealt with this matter[1] that I will say no more of it. I will, however, allude to what I said of Semon and Horsley's experiments on the representation of the vocal cords in the cortex. These experiments demonstrate that in one case at least there may be loss of some movements of a muscular region, with persistence of so many other movements of that region that no disability in the working of the muscles is discoverable. (These experiments are a strong confirmation of Broadbent's well-known hypothesis, for one case at least.) There are other cases in which paralysis exists in which it is not expressly thought of. In cases of pernicious diabetes the lesion is supposed to be of a certain part of the great vaso-motor centre; if so, then what the disease (pathological process) produces is nothing but paralysis of the hepatic arterioles. Speaking figuratively, the medulla oblongata knows nothing of glycogen or sugar; it only

[1] British Medical Journal, July 14 and 21, 1888.

knows the hepatic arterioles. Thus, in a scientific classification, pernicious diabetes is a paralysis from lesion of a part of the spinal system (lowest level of evolution of the central nervous system) as certainly as that ordinary progressive muscular atrophy, or anterior-polio-myelitis, is. I suggest that the xerostomia ("dry mouth"), first described by Hutchinson, and soon afterward by Hadden, is also a paralysis—that it is owing to a negative lesion of the centres for the motor nerves of the salivary and other oral glands.

I submit that the essential thing, that which disease, in the strict sense of pathological change, produces, in cases of insanity, "disorders of co-ordination" with negative lesions, tremor, aphasia, pernicious diabetes, and xerostomia is paralysis. This way of looking at cases is most important when we are engaged in the comparative study of nervous diseases, and especially of insanities (diseases of the highest level) with diseases of the lowest level.

I will now give a series of fragmentary illustrations, largely hypothetical, of losses of some and persistence of other movements of the same muscles, the movements lost and those persisting varying according to the level of evolution damaged. I submit the hypothesis that (1) progressive muscular atrophy, (2) paralysis agitans, and (3) general paralysis are homologous diseases. The comparison and contrast is not of wasting of muscles, tremor, and a negative psychical defect. Analysis shows, I think, that, artificially limiting illustration to the hand, there is loss respectively of (1) simplest, (2) more complex, and (3) most complex movements of the hands. The comparison is of three cases of paralysis. The lesion is supposed to be wasting of cells, in the order from smallest toward largest, of lowest, middle, and highest motor centres respectively. The cases differ according to the level of evolution morbidly affected. Referring back to what was said on the hierarchy of motor centres, I now go into more detail.

1. In progressive muscular atrophy there is loss of simplest movements of the hands (cerebral and cerebellar), of those represented in some of the lowest motor centres (anterior horns). In this case the muscles are cut off from the influence of the whole central nervous system and waste. It is important to note that there is retention of more complex (middle centres) and most complex (highest centres) movements of the hands, certainly of motor nervous arrangements for them. Did not motor nervous arrangements still representing the hand remain in the highest centres the patient could neither think nor dream of moving the part, and would have no physical basis for tactual ideas.

2. In paralysis agitans there is (this is, of course, hypothetical) loss of more complex movements of the hand, those represented in the middle motor centres. There is retention of the most complex movements represented in the highest motor centres, and also of the simplest represented in some lowest. With this loss of more complex movements (we might say "middle movements") there is, in the tremor, development of simplest movements of the same muscles, the latest stage being rigidity. I submit that these movements are the result of mere physiological over-activity of the healthy lowest motor centres. To repeat, there is a duplex condition of the hand; negatively loss of complex (middle) movements of its muscles, and, at the same time, super-positively, over-development of simplest (lowest) movements of the same muscles. This case (2) differs doubly from (1), for in (1) the movements lost are (*a*) simplest, and (*b*) both the cerebrum and cerebellum are cut off from the muscles, while in (2) the movements lost are (*a*) more complex, and (*b*) the cerebellum remains united through the lowest motor centres with the muscles. (I have suggested that the cerebellum co-operates with the anterior horns in producing the tremor.)

3. In general paralysis there is loss of some of the most complex ("finest") movements of the hands, those represented in the highest motor centres, of those entering into the physical bases of tactual ideas and of other mental states. Here there is retention of less complex (middle) and of simplest (lowest) movements.[1]

Of course the negative psychical defect in general paralysis is wider than that answering to loss of motor elements in the highest centres representing the hand. I have been artificially limiting the illustration. Yet if Spencer be right in saying that all other ideas have to be translated into tactual ideas, to lose tactual ideas is to become imbecile. I will here make further remarks on the negative mental defect in cases of general paralysis. I ask you to bear in mind the suggestion that the positive mental symptoms in this insanity, as in all other insanities, correspond to activities of healthy nervous arrangements; if so, we have nothing to do with them at the time when we are dealing with the effects of pathological processes.

Most mentation is carried on in visual and tactual ideas, and by aid of words. To have negative affection of consciousness is therefore to have especially loss of these three—I shall limit consideration to them—and thus it implies that there is correlatively a negative state of their sensori-motor bases. In general paralysis the lesion, if of the highest motor centres, is of the motor elements in those sensori-motor nervous arrangements—is loss of more or fewer of the most complex ocular, manual, and articulatory movements; the lesion therefore produces paralysis in the sense of loss of "finest" movements of the three parts. I submit that, taking an early stage of general paralysis, the tremor of the hands is indirect evidence of loss of most complex movements of these parts, and further evidence is the lack of dexterity in manipulation. Similarly for the defective articulation. Now for paralysis corresponding to loss of visual ideas; in these ideas most of all mentation is carried on. Here I admit a discrepancy. It is said that there are no abnormalities in ocular movements in general paralysis; but I think that there is, in some cases, a want of even gliding of the eyes in their different excursions. I say this diffidently, and, instead of founding anything on it, will admit that I can show no evidence of paralysis answering to loss of motor elements of the physical bases of visual ideas in cases of general paralysis.

## DETAIL IN SURGERY.

### Being the Address in Surgery, Delivered Before the British Medical Association.

By T. PRIDGIN TEALE, M.A., F.R.C.S., F.R.S.

In deciding what line of thought to select for this address, I had to consider whether, following the example of many of my predecessors and of the earlier retrospective addresses, to give an account of recent advances and changes in surgery, or to select some definite subject perhaps not entirely in accordance with precedent.

Happily, my immediate predecessor devoted his address to a review of the surgery of the last half century, absolving me from the obligation to adopt a similar course, and setting me free to choose a subject more congenial to my habit and work.

"Detail in Surgery" is the title selected for this address, in which I hope to show how much some of the triumphs and shortcomings of modern surgery are made or marred by the carrying out of detail, detail which is essentially embodiment of principle, not the mere multiplication of points of practice such as may not materially further the end in view.

In working out this line of thought, I hope to be able profitably to employ the time at my disposal, and to give

[1] Of course I do not mean that the lesions in general paralysis are limited to the highest motor centres. I am dealing with what I suppose to be the effects of lesions of those centres in this disease, and am taking but one fragment of these effects in illustration. Moreover, general paralysis is not a well-defined clinical entity.

prominence to conclusions which have been formed during a surgical life of over thirty years, made up not of my own work alone, but very largely of the freest interchange of thought and experience with most friendly and active-minded colleagues, medical and surgical, with whom it has been my great happiness to be associated. In so doing, it has been my endeavor to be as little egotistical as is compatible with the attainment of the end in view.

*Ligature of Arteries.*—It happened not long ago that I had to deal with a wound of the brachial, at the bend of the elbow. Esmarch's tourniquet enabled me to expose beautifully to the eye a longitudinal slit in the artery. Of course I was obliged to apply a ligature on both sides of the puncture. There were then clearly exposed to view the two ligatures, and about half an inch of the artery containing the slit. It occurred to me to divide the artery between the ligatures, and so to relieve obvious tension. I then appreciated what I had never before fully realized in connection with ligature of an artery, the immense elasticity of the arterial coats. The separated ends receded fully half an inch from one another. The question at once occurred to me, Can it be right ever to tie an artery by a single ligature, and to leave this powerful force of elasticity to work for ulceration of the coats and gaping of the ulcer, with the risk of final disturbance by retraction of the divided ends when ulceration has completed its work? May we not here find an explanation of the numerous failures of ligature of the great arteries of twenty and thirty years ago, and of the fatal secondary hemorrhages, chiefly from the distal end? Some may say that antiseptics and the cutting short of the ligature have changed all that, have reduced the risk of ulceration of the coats of the artery and of secondary hemorrhage. Well, antiseptics fail now and then; and if they should fail we may be thankful for the additional protection of a doubly-tied divided artery. Secondary hemorrhage and fatal result will be thereby rendered extremely improbable. Recently I assisted my friend, Mr. R. N. Hartley, in a case in which he first ligatured the femoral and, a week later, the external iliac on the same side in the same patient. On both occasions he doubly tied and divided the artery with admirable result. This principle, proposed by Abernethy and afterward forgotten, has recently been restored to practice at St. Bartholomew's Hospital by Mr. Walsham, and is, I believe, practised elsewhere. May we not call this "a detail" in the operation of tying an artery? Does it not embody a principle—the principle of physiological rest? Are we to recognize and act upon the fact of the elasticity of an artery or are we to ignore it, and to place our patient at the mercy of elastic drag, tension, ulceration, retraction when liberated, and secondary hemorrhage? Does it not also involve the larger principle of *rest* as an important factor in the healing of any tissue.

*Stricture.*—There is a form of instrument for the treatment of stricture which has been but little written about, and although at last slowly making its way into use, has not met with the attention which I feel sure it deserves. It is known to me by the name of "Lister's sound," and was invented by Sir Joseph Lister.

From the very commencement of my professional life I have been familiar with and have been taught to use in the treatment of stricture "bulbed" steel sounds, which seem to have existed as traditional instruments in the Leeds Infirmary, were constantly used by my father and the older surgeons, and were, I believe brought to Leeds by the late Mr. Samuel Smith, who had learnt their use from his master, Sir Charles Bell, in Edinburgh. The virtue of the bulb is this: that, the stem of the instrument being necessarily smaller than the bulb, as soon as the bulb has passed through the stricture the instrument is free, and the touch of the surgeon is at liberty to perceive the character of the succeeding part of the urethra. Compared with the bulbed sound, the ordinary catheter, which, as a student, I frequently witnessed in use in the treatment of stricture, was clumsy and eminently unsatisfactory. The defect of the bulbed sound, in common with most other methods of treating stricture, was, that as soon as one size had been passed through a stricture, the same process of difficulty had to be encountered in passing the size larger. Some twelve years ago, while I was considering how to overcome this difficulty, our house-surgeon, Mr. Rowell, on his return from a visit to Edinburgh said to me: "Here is the instrument you want, a Lister's sound." I ordered a set, and I have used them ever since, exclusively, and have never flinched one moment from my allegiance to them. The principle of the instrument is this. It is bulbed at the point, like our old bulbed sounds: Then after the narrow neck the stem gradually increases until it attains, at a point about four inches from the bulb, a calibre two sizes larger than the bulb. Thus: No. 1 at the bulb swells to No. 3 or 4; No. 9 to 12; No. 11 to 14. It is clear, then, that if you can once pass No. 1 safely into the bladder you have prepared the way by the thickness of the stem for the more easy introduction of a sound with a bulb of the size of No. 2, and so on, each number passed rendering the way more easy for its successor. As a matter of fact, the larger sizes are passed with constantly increasing facility.

Have we not here a "detail" in the form of an instrument which solves many difficulties, combining the advantages of the bulbed sound with those of the conical sounds and bougies, and avoiding the disadvantages of both? It destroys the need of catheters with the hollow eye capable of carrying concealed poison, of gum-elastic catheters, and catgut bougies with the possibility of septic material lurking in interstices and cracks, and reduces very greatly the need of perineal section or internal urethrotomy.

Let me sum up my own experiences of the use of Lister's sound, which for the last twelve years has been, both in hospital and private practice, most satisfactory. Since their adoption, as far as I can recollect, I have only once had to perform perineal section from inability to get through, or to satisfactorily dilate a stricture. I have never performed internal urethrotomy, nor felt the need of it. Rigors are extremely rare after the use of Lister's sounds. This rarity of rigor I am inclined to attribute to the fact that in nearly every instance dilatation has been carried, at the first sitting, up to 10, 11, or 12. It is my belief that full dilatation at the first sitting is safer than the older method of partial and gradual dilatation, and for this reason: Even in partial dilatation there is frequently some laceration or bruising of the surface at the strictured point. If the stricture be only partially dilated, there remains a narrowing at this sore point sufficient to materially arrest the flow of urine, and therefore there is urinary pressure on the raw surface; whereas in full dilatation the urine flows along the urethra equably and without undue pressure at any point; and puts no stress upon the tender and perhaps lacerated surface of the stricture.

In a small number of cases I have failed to introduce Lister's No. 1, but these have been got over by the aid of Teevan's filiform guide, which in every case was successfully passed. The guide having been introduced through the stricture, its outer end is then screwed into the tip of a conical sound, like Lister's, with the bulb cut off. The filiform bougie guides the solid instrument through the stricture, and thus dilatation up to 4 or 5 Lister is secured, with the usual easy sequence up to 12 or 14.

*Effective drainage* may be defined as "such a provision for the escape of fluid from any cavity as shall secure that the discharges, which when secreted are sweet, shall escape from the cavity before they have time to putrefy, and shall be received into one of the aseptic absorbent materials with which surgery is now so abundantly provided." Formerly the idea of drainage was almost limited to "free incision and a dependent opening." This idea was true to a certain extent and in some cases, of which the following is a brilliant example: A man was received

into the Leeds Infirmary suffering from pneumothorax on the left side, from broken rib. The air was rapidly absorbed, but shortly the pleural cavity became full of fluid. This was drawn off twice, and on the second occasion was purulent. For some reason or other, the patient being extremely ill, an opening was made into the chest in front. He continued to lose strength and flesh, became extremely emaciated and albuminuric. As a forlorn hope, an incision was made into the pleural cavity posteriorly, whereby a free, dependent, self-draining opening was secured. In three months the wounds had healed, the patient had gained forty-two pounds in weight, had lost his albuminuria, and was well.

But a dependent opening is not always the most efficient or the best. I was requested by my colleague, Mr. Mayo Robson, to see with him a lady with pelvic suppuration discharging through the rectum, that is, by a dependent opening. It was the source of much pain and of occasional febrile attacks and ill-health. A tumor about the size of an orange, and supposed to be the source of the pus, was felt by rectum and vagina. Mr. Robson carried out the following treatment, agreed upon at our consultation: Having exposed the tumor by direct abdominal incision, he stitched the peritoneum of the edge of the incision to the upper surface of the tumor, leaving a small area of the tumor exposed, and rendered thereby extra-peritoneal. He then cut into the tumor until he reached a collection of offensive pus, and washed out and drained the cavity. Immediately pus ceased to appear by rectum, that is, by the downward drainage, and in four weeks the whole was healed and the patient was well.

Until recently surgery has been too much a slave to the principle of a dependent opening. A dependent opening may be for the moment efficient while the cavity is distended, and yet, after it is emptied and collapsed, may become valvular and inefficient. Moreover, when a large cavity has been emptied, the walls may, by their collapse, shut off portions of the surface from satisfactory drainage. Drainage, therefore, is a "detail" which needs to be studied in reference to each individual case. The leading idea should be so to provide, whether by position of openings, by shape of opening, or by use of drainage-tube, that secretions shall escape from every part before they have time to become septic, remembering that if a way of escape for fluid without risk of imprisonment be provided, we generally have to aid us the elasticity, or contractility, or displacing compression of surrounding tissues, and that we may be, to a great extent, independent of mere gravitation.

Such ideas, clearly held, will set us free, and encourage us to continue, as we now do, to drain abdominal cavities, abscesses, irremovable cysts, distended gall-bladders, pelvic abscesses, and, perhaps, even abscesses connected with diseased hip-joint, by a mode of drainage which is anything but a dependent opening, but which we have learnt how to render efficient.

This idea of drainage, combined with the principle of rendering a cavity extra-peritoneal, is the key to some of the recent masterly developments of abdominal surgery, whereby deeply seated cavities containing offensive and septic materials can be treated with comparative safety.

*Peritoneal Stitching.*—Another detail in surgery which I have only recently learned to appreciate is that of the independent stitching of the peritoneum. The looseness of the attachment of the peritoneum to the abdominal wall allows it to be dealt with with great freedom, as has already been referred to in the paragraph on "Drainage." A few months ago, when I was about to stitch up the abdominal wall after ovariotomy, Mr. Hartley, who was assisting me, asked, Why not stitch up the peritoneum alone, and then unite the rest of the abdominal wall by a separate set of stitches? I at once acted upon the suggestion, knowing that it had been practised by others. The effect was to make the closing of the abdominal wall much simpler, and not more tedious. The advantages appeared to be: (*a*) absence of tension on the peritoneal union, (*b*) very little bleeding from the peritoneal stitches, and (*c*) greater facility in uniting the abdominal wall, from not having to provide for the accurate adaptation of the peritoneal edges. After the operation the patient seemed to be more free than usual from discomfort in the wound. It is possible that further advantages may accrue, such as diminished proneness to hernia of the scar, and less liability to suppuration in the track of the sutures. So much for the value of this detail in ovariotomy and abdominal section. But the lesson thus learnt went further. Not long ago I was called in the middle of the night to a patient suffering from strangulated umbilical hernia, who had been admitted into the Leeds Infirmary in order that she might undergo an operation for radical cure, strangulation having suddenly set in while she was waiting for the operation. After reducing the bowel and removing a large mass of omentum, I was prepared to close the abdominal ring, which had a diameter of an inch. To close this in the ordinary way by sutures, so as to secure union of the peritoneal edge, which is adherent to the margin of the ring, is no easy nor certain proceeding. I therefore, with the scalpel, incised round the margin of the ring, and thereby got a starting-point whence I could strip the peritoneum from the under surface of the abdominal wall over a radius of about an inch. The edges of the opening in the peritoneum were then easily brought together, and closed by a row of five or six stitches. The peritoneal cavity having been thereby closed and cut off from the wound, two wire sutures were inserted into the aponeurotic ring of the linea alba, so as to bring the opposite sides together, and were cut off, to be left as a permanent barrier. It seems likely that such a proceeding may increase the safety of operations for umbilical hernia, whether undertaken to relieve strangulation, or for radical cure.

*The Sphincter Ani in the Surgery of the Rectum.*—There is a detail in operations on the rectum or anus which, rightly carried out, contributes very greatly to ease in operating, to the comfort of the patient after the operation, and to the permanency and perfection of the result. As a preliminary step, in every operation on the rectum or anus, there should be dilatation of the sphincter ani by the fingers. To some this may seem a truism, a self-evident proposition, which it were waste of time and breath to assert. The fact, however, is that it is far from self-evident to many surgical minds, and has not been acted upon as a general rule, and, until very recently, has been absolutely ignored by many rectal specialists, and by writers on general surgery.

First and most conspicuous in this relation are bleeding internal piles. Some twenty five years ago, I was asked to operate for bleeding piles on a gentleman about thirty years of age. On mentioning the case to my father, he said, "Dilate the sphincter, and most likely you will never have to operate on the piles; they will be cured." His anticipation proved to be correct. The advice was acted upon, and the gentleman has remained well to the present time. So late as in 1887 did M. Verneuil bring this subject as a novelty before a meeting of surgeons in Paris, nearly all of whom were entirely ignorant of the question. This experience was amply confirmed by subsequent cases, and I now rarely operate on internal hæmorrhoids without having previously tested the effect of simple stretching of the sphincter. In more severe cases, requiring the removal of hæmorrhoids, the stretching, as a preliminary to operation, at once displays the piles to view, and places them in a ready position for being seen, seized, and dealt with. Another advantage is that, after the operation, the parts remain at rest, and the wounded tissues are not liable to protrude and to be strangled by a resentful sphincter. Also, if there be bleeding, there is great facility for the escape and discovery of the blood, and therefore less danger of concealed hemorrhage, which may fill the rectum with a large clot, perhaps only to be suspected from the pallor and feeble pulse of the patient. A further advantage is that wounded and granulating sur-

faces within the rectum are not interfered with, or kept in a painful or irritable state, after the fashion of fissure, by an over-active, excitable sphincter. Two cases have recently been under my care in which long-continued suffering, after removal of piles without stretching of sphincter, was at once cured by simple dilatation.

Contrast with this the clumsy and unscientific plan, until recently recommended in the text-books, of requesting the patient to "bring down" the piles by sitting over hot water before operation, so as to afford the surgeon an opportunity of playing hide and seek with the elusive hæmorrhoids, aided by their confederate sphincter.

In operations for fistula in ano, dilatation of the sphincter is an essential preliminary. If the internal orifice be close to the anus, it is at once displayed or brought within easy reach. If it be at some distance, and beyond the sphincter, this proceeding renders it possible to cure the fistula without extending the incision up to the internal orifice, and so risking loss of control over the action of the bowel by too free division of the sphincter ani. Such deeply burrowing fistulas I have cured on several occasions in the following manner. The sphincter having been freely dilated, the external orifice of the fistula was enlarged laterally in such a way that the opening in the skin was the base of a triangle with its apex at the other end of the fistula, where it communicated with the bowel. The track of the fistula was freely scraped, and a drainage-tube was inserted, so as to reach within half an inch of the opening into the bowel. Undoubtedly the key to a successful result in such a case is the "detail" of dilatation of the sphincter, which by its relaxation allows the contents of the bowel to pass away easily, and without forcing secretions backward into the fistula, until time has been given for the freshly scraped surface to unite and seal the offending track. Time will not allow me to say much more on this far-reaching topic, but there is one point I must not omit. Of late years, the question of dilatation of the os and cervix uteri, and of treatment of the cavity of the uterus for endometritis and other metritic troubles, has come very much to the front. Indeed, it is a selected subject of discussion at the present meeting in the Obstetric Section. In some of the discussions by gynecologists I notice that much is said of constipation as a factor in these cases, and as one that ought to be treated and remedied, of course by medicines, as a preliminary to any special interference with the uterus. In some cases I know, and in many others I suspect, that the cause of the constipation is a tight, or spasmodic, or irritable sphincter. In such a case stretch the sphincter, and you may "throw physic to the dogs." And let me note in passing that there are instances in which the sphincter may cause constipation and its train of symptoms, without any evidence of fissure, or anal pain, or bleeding; or there may be what I have often observed, but have never seen described, a peculiar rigidity, a sort of inelastic ring, like a fibrous degeneration of the muscle, which does not resist the introduction of one finger, but bars the rectum as with a ring of iron to the introduction of two. In such cases only artificially softened evacuations can escape. May we not consider dilatation of the sphincter to be a "detail" in surgery worth study no less by the physician than by the surgeon?

*Ether versus Chloroform.*—This is a subject on which I wish to speak with a sense of grave responsibility—the more so that I have to express views which are strongly opposed to those uttered at Glasgow last year by my predecessor in this chair.

If anyone asks why I venture to differ so widely and strongly from one whose surgical experience is probably not less than my own, and may be greater, my plea is as follows:—

For the first fifteen years of my surgical life, which includes ten years as surgeon to the Leeds Infirmary, I knew little of any anæsthetic but chloroform. So far, probably, our experience runs parallel. During the last fifteen years ether has almost superseded chloroform in my practice. Here the parallel ceases. Sir George Macleod's second fifteen years are still devoted to chloroform. He cannot speak from fifteen years' experience of ether. As a result of the comparison of these two periods, I unhesitatingly assert that ether is, for safety to the patient and for comfort and convenience to the operator, immeasurably the better anæsthetic of the two. Ether can be given "*tute, cito, et jucunde!*" I say can be; would that I could say *is* always so given.

My earliest experience of ether was in the method introduced by Dr. Joy Jeffreys, when, at the International Ophthalmic Congress in 1872, he preached his crusade against the almost universal use of chloroform prevalent in the United Kingdom, and compelled British surgeons to take up the question of ether. He appealed to our sense of duty in reference to the fearfully increasing fatality of chloroform, and we responded to his call, in spite of the grave disadvantages of the clumsy, wasteful, nay harmful, method of giving ether, by lavishly pouring it into a cone formed of a towel, to which he introduced us. The disadvantages of ether so given were great and obvious. The struggling of the patient, the icy coldness of the inhaled air, the saturation of the air of the room by twelve, fifteen, or twenty ounces of ether spent upon a single case, and the not infrequent, and occasionally fatal, bronchitis which followed, were such obvious drawbacks that the wonder is that ether survived as an anæsthetic in England until it had time, by improved methods and increased experience, to win its way to the pre-eminent confidence which it now commands. The towel was, after a time, superseded by the wicker grid—brought over from America by a late chaplain to the Leeds Infirmary, the Rev. E. Spencer Gough—an improvement on the towel, but sharing with it the chilling of every inhalation by the evaporating ether as well as a high percentage of waste of the anæsthetic. The method of administering nitrous oxide gas before giving ether was, in his later years, largely given up by Clover. Next came the great step which was the saving of ether as a British anæsthetic. Ormsby, of Dublin, invented the inhaler in which the exhaled warm air, charged as it is with ether, was received into an india-rubber bag and breathed over and over again, thus economizing the heat of about ninety per cent. of the exhalations and reducing the waste of ether. This idea was taken up by Clover and developed into the present form of inhaler, which, as far as I know, is unapproached by any method of giving ether that has come into use. But, *Non cuivis homini contingit adire Corinthum.* It is not everyone who knows, and there are some who are incapable of learning, how to administer ether, even with Clover's inhaler.

There are many hospitals in England, and still more, I believe, in Scotland, where the use of ether is practically unknown, or where, if ether is given, the obsolete towel or the grid, or the very inferior inhaler of Ormsby is used; or even should the hospital possess a Clover, it may not possess an etherist who knows how to use it to the best advantage. To administer ether badly is to bring it down nearly to a level with chloroform as to safety, and to render it inferior to chloroform as to comfort to the patient. A bad etherist will cause fear, coughing, distressing sense of suffocation, excitement, struggling, blueness of lips, mucous rattling in the trachea and bronchi. He will take many minutes, five to ten, in getting his patient under the anæsthetic, will use twice or thrice as much ether as is needful, will keep his patient when unconscious overcharged with ether, in a state of profound stertor, and will now and then set up a dangerous bronchitis. A good etherist will win the confidence of his patient, even of the most timid, by judicious encouragement, and by first applying the mouthpiece alone. As confidence becomes established he adds the reservoir, and then the india-rubber bag, slowly turning on the ether as tolerance of the vapor becomes established, and unconsciousness begins to steal on. Then he more rapidly increases the proportion of ether, and the patient quickly falls into complete

anæsthesia. Such an administrator will, in nine cases out of ten, have his patient ready for operation in two or three minutes, and not infrequently in about a minute and a half, without a struggle, without coughing, often without even a transient sense of suffocation, and with the expenditure of about half an ounce of ether, and will need but about one ounce of ether for each quarter of an hour that the anæsthesia is kept up. In such a case we need fear no danger at the time, nor subsequent bronchitis. So much for the patient.

But there is another side of the ether question which I have never seen adequately stated. The advantages to the operator of using ether instead of chloroform are very great. In the first place, his anxiety is less, his fear of a fatal issue is less, and when obliged to trust to an inexperienced administrator, as he must do at times in sudden emergencies, he can more efficiently keep an eye on the patient's condition, and superintend the administrator, than when chloroform is used.

In the second place there is a saving of time, a patient being brought under the influence of ether in two or three minutes, whereas chloroform, in my experience, needs eight or ten. Such a saving is of no slight moment in modern hospital practice now that the sphere of surgery has become so enormously extended.

In the third place, under ether return of consciousness to pain generally lags behind the return of mental perception, and thus anæsthesia can easily be re-established without interrupting the operation. So marked is this fact toward the end of a prolonged operation that sometimes the surgeon may continue to operate for ten minutes or a quarter of an hour without re-application of the inhaler, and even converse with his patient while stitching up a wound. This is hardly, or rarely, the case with chloroform. Let anyone who is not yet a convert to ether, or who, having used ether, is wavering in his allegiance to it, ask himself these questions. Have I myself studied the details of successful etherization? Am I using the best form of inhaler? Have I taken pains to have those who act for me properly taught and trained? If not, let him ask himself one more question—Have I done my duty?

*Instruments—The Scalpel.*—An essay on "Detail in Surgery" would hardly be complete without some words about "instruments." Instruments bearing the same name are apt to vary in shape. Some forms are certainly better than "other some." Certain good forms and types are apt to go out of fashion, to "get out of print," and to be superseded by inferior types. It is often difficult to get the best type of instrument, or to renew a lost form, so great is the tendency to degeneration and departure from the original type. Take as an illustration one of the simplest and most frequently used, a "scalpel." How rare it is to meet with a scalpel of good form; and yet we have the pattern admirably drawn in the work on *Surgery*, by that master hand in the selection, designing, and handling of instruments, Sir William Fergusson.

The scalpel should be to the surgeon what the pencil is to the artist. The surgeon should be conscious, even with his eyes shut, where the point of his scalpel is, his eye should be upon the tissues he is about to cut, not in continual search for the point of his instrument. And how can he feel where the point of his instrument lies unless the point be central; and how can the point be central except the scalpel be truly lancet-shaped? How few of our instrument makers turn out truly balanced central pointed scalpels. Fewer still can keep our scalpels in order without grinding the point away until it reaches the level of the back of the knife, giving us, instead of the beautiful, sawing, lancet-shaped curve of edge, an edge belly-shaped, flat toward the point, ready to be blunted by the first plunge into the skin.

*The Director.*—Another simple, universally used instrument, is the "director," which is rarely met with of good form, as generally offered for sale. It is straight, instead of having an elegant double curve, slight indeed, but such as would enable the surgeon to insinuate the instrument along curving passages, or more conveniently to bring the point to tell from beneath against the skin. It is often too deep or too narrow in the groove, and the groove, instead of shelving off to a vanishing-point and allowing the bistoury to continue its course, ends in a full stop, and spoils both the course and the point of the knife. Another faulty point is the handle. A director should be capable of being held firmly, the handle being substantial, not thin, long enough and not stumpy, and horizontally roughened and not slippery. You may perhaps think this a long tale about a small matter.

*Catheters and Sounds.*—The metallic catheter or sound is, or was, an instrument used by nearly every medical man. As with the scalpel so with the catheter, the surgeon should be able to feel, that is to be conscious, where the point of the catheter or sound is, and without seeing it, as he cannot have his eye upon the point when in use. In order that we may feel where the point of the catheter is, the straight stem should be continued into a true curve, that is, a segment of a single circle, probably exactly a quadrant. And yet what do we generally find? A curve, which at one part is the curve of a one-sized circle, at another part is a curve of a circle of a different size, or the catheter may terminate with about one inch of its length which is a segment of no circle whatever. The same applies to sounds, and even to some sets of Lister's sounds. My own had to be remodelled and brought to a correct curve.

*Volsellum Forceps.*—Perhaps no single instrument has been made in greater variety of form and shape than the "volsellum forceps," of which I possess a considerable variety. The principle on which the majority are formed is that of one, two, or more pairs of teeth or claws, or fangs, which sometimes fit accurately when closed, so as to present no projecting points, sometimes expose unguarded points which interfere with easy manipulation, and may prick the surgeon's finger when guiding them to their destination. Probably the best of this class is the hawk's-claw forceps, designed by Mr. R. B. Hewetson, of Leeds, copied from a bird's claw. It consists of five prongs, which fit so accurately at the points as to present when closed, a smooth rounded surface. Forceps of this class are essentially grouped hooks, and like hooks are apt to tear through tissues when any forcible drag is put upon them. The needs of abdominal and uterine surgery have, however, created a demand for a form of forceps which shall be capable of maintaining a firm grip without tearing of tissue, even under the stress of considerable drag. This need forced itself upon my attention when working out a satisfactory method of rapid dilatation of the os and cervix uteri. Marion Sims taught us the value of drawing down the os uteri by a hook. But the hook will not provide for a prolonged and powerful drag, such as is needed to fix the uterus in dilating the os internum. The other forms of hook were tried, and the claw-like volsellum forceps, and all at times disappointed me, until, taking a hint from a small pair of forceps which were found in the collection at the Leeds Infirmary, I had made by Messrs. Weiss a pair of forceps which has proved most satisfactory. The teeth, seven in number (three and four), are short, and so fit into one another when closed, that they not only act as seven hooks, but also close upon and nip firmly the tissues that lie between them. They are also provided with a catch, so that they will hang, or can be held by a single finger passed through one ring. The key to satisfactory uterine dilatation is the power of holding the os uteri down toward the vulva, and no form of forceps that I have met with is equal in efficiency to the one now described. Had I possessed them years ago, they would have saved me hours of work, and perhaps sometimes failure, in operations for vesico-vaginal fistula.

*The Twitch Tourniquet and Torsion Clamp.*—Some years ago Messrs. Weiss made for me an instrument

named the "twitch tourniquet," which has not yet been described in print. It has proved useful to me on many occasions as an easy means of controlling the cord in extirpation of the testis, as a more handy and manageable clamp in amputation of the penis than the ingenious vulcanite plate of Clover, and as an aid in removal of intra-uterine fibroma. The idea was suggested by the "twitch" used by veterinary surgeons for controlling horses by a hold on the upper lip. The idea stood me in such good stead when in a great fix not long ago that I have developed out of it the "uterine torsion clamp," designed to do the work of Kœberlé's and Lawson Tait's clamp in hysterectomy. The emergency was as follows: A few months ago, when operating on a supposed simple ovarian tumor, at the Leeds Infirmary, I unexpectedly found that it was so completely united with the back of the uterus that I must include the uterus in the pedicle. Kœberlé's clamp was produced, but the screws would not bite, and we had no other clamp at hand, We were suddenly face to face with an extreme difficulty. Mr. Littlewood, who was assisting me, suggested the wire *écraseur* as a way out of the difficulty, and the thought struck me at once that, having surrounded the pedicle with the wire, I might tighten by torsion instead of by the mechanism of the *écraseur*. The result was so satisfactory that I determined to modify the "twitch tourniquet" so that it might admit of the use of suitable flexible wire, which, having been tightened by torsion to any desired extent, could be released and left on the pedicle as a clamp.

*Conclusion.*—Those of my hearers, and readers—for an address to the British Medical Association is practically delivered *urbi et orbi*—those, I say, who have expected to hear a triumphant record of the astonishing progress of surgery, or a pæan on our local surgical achievements, may be disappointed at the humble theme which I have attempted to work out, and may think that I have failed to do justice to colleagues who have done much to leave a mark upon the progress of surgery. My aim has been not to sound the praise of individuals, much as they deserve it, but rather to leave an impression on the practice of surgery.

If any of you shall have been induced to study afresh, and from the point of view put forward in this address, the question of division of an artery between two ligatures, the bearing of the sphincter ani upon the surgery of the rectum and disturbed functions of the colon; the substitution of Lister's sounds for older methods in the treatment of stricture; the emancipation of "drainage" from red-tape rules; and, lastly, the proper method of administration of ether so as to raise it as an anæsthetic to a position of incontestable superiority to chloroform—if such should be the outcome of this address, your time in listening will, I trust, not have been wasted, and my labor in composing it may not have been in vain.

## SIMPLE METHODS FOR MAKING CORROSION PREPARATIONS SHOWING THE GROSS ANATOMY OF LARGE VISCERA.[1]

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My object in presenting these preparations of the heart, lungs, and kidney is to direct attention to the value of the method for study, and also to show that little but patience is required to make them. It is needless to say that no originality is claimed. Some of the details have not, however, been described before, as far as I know.

Corrosion preparations are usually broken by handling; by currents in the corroding fluids; by unequal corrosion; and a consequent tendency of the specimen to turn suddenly over in the solution as its centre of flotation is changed, or to break because of the unequal support given when the ends of the specimen tend to float higher or lower than the middle.

It is evident, therefore, the first thing is to avoid handling. This is easily done if the organ be fastened to a proper support. All the indications are fulfilled if the various tubes be fastened together and to some support, and if the corroding agent be so applied as to avoid making currents. The support should be arranged so that it prevents sudden turning, and also so that it holds the organ at nearly the same position in relation to the corroding agent, if this latter rise or fall, or if the organ changes its centre of flotation. The method first described applies to all viscera with which I have experimented (heart, liver, spleen, pancreas, and kidneys) except the lungs, which require special treatment.

The cannulæ may be of glass or hard rubber, and are inserted and fastened in the usual way. The injection may be made with a syringe or in any other manner. All the pipes should be as large as possible.

After the cannulæ are in place the organ is put into a rather deep glass jar, nearly filled with warm water (102°–110° F.).[1] The injection is then made, and the organ removed to another jar containing cold water. As soon as the mass has cooled in the cannulæ the organ is raised by them so that they are above the water-level. A short, stout **S**-hook of glass is now tied either to the cannulæ or to the injected vessels. After this the vessels and the hook are all fastened together, either by pouring melted paraffin over them, or by means of melted shellac. It is then hooked over a piece of thin rubber tubing, which is to be fastened across the mouth of the jar after most of the water has been siphoned off. This tubing should be sufficiently elastic to allow considerable rise and fall of the viscus with the changing fluid level, and also allow it to sink deeper as the lower parts become dissolved. The water is next siphoned off until only enough remains to support the specimen. Strong hydrochloric acid (commercial) is then poured over the surface of the organ in quantity sufficient to raise it nearly to the top of the jar. The rubber tubing, which has until now been left loose, is next fastened to the jar or some convenient object. (It is frequently better to have an independent support for the elastic tube. A shallower dish may then be used for the specimen, and this may be put over a deeper one. The various corroding agents may then be allowed simply to overflow the sides of the shallower dish and be siphoned off from the deeper when necessary.) Sufficient strain should be made on the rubber to lift the specimen partly out of the fluid, so that a small portion of its surface is exposed.

After the specimen has been twenty-four hours or more in the acid, this may be replaced by water, poured in through a funnel, the tube of which is carried down to the bottom of the jar. If water supply be available, a glass tube attached to a faucet by rubber tubing may be carried down to the bottom of the jar and a gentle stream turned on. The specimen may remain from one to twenty-four or more hours in water. After this more hydrochloric acid may be added, and the process repeated as often as necessary.

When the specimen is clean it is carefully removed from the jar. If it be very large, several cords may have to be attached to it at different points. It is better, with delicate specimens, to remove the fluid by a siphon than to try to lift them. The siphon makes less current. If paraffin be the basis of the injection, varnish may be now applied, in the manner soon to be described, before any further manipulation.

In dealing with the lungs the process is different, since these organs tend to float so high. If possible, they should be injected in the unopened thorax, the latter being subsequently opened and the lungs treated *in situ*. As this procedure is rarely possible in the human subject, we must, if a fairly accurate specimen is desired, take a cast of the

[1] Read before the New York Pathological Society, April 24, 1889.

[1] If cold masses be used, of course no warm water is needed.

pleural cavity in plaster, and from this make another in wax or paraffin. The lung may be laid in the latter and carried through all subsequent processes. For most cases it is sufficient to proceed as follows: One of the short arms of a glass T-tube is introduced and tied in the bronchus, and cannulæ are tied into such vessels as it is desired to inject. To the long (perpendicular) arm of the T a rubber bulb, such as is used in atomizers, is attached. The injection mass is introduced through the other arm. A piece of rubber tubing, having a clip on it, is put on this latter arm. The clip being closed the lung is inflated by means of the bulb with air. It is then placed in a shallow dish, partly filled with melted paraffin. Some of the latter is poured over all the tubes. The injecting syringe is now inserted into the rubber tube attached to the T. The clip is removed and the injection made. When enough of the mass has entered, a little cold water is poured over the T, and the mass is thus hardened and the tube plugged. The artery is next injected, the vein last. After the injection has cooled a little, several shallow incisions are made on the upper surface. These form a holding-ground for the acid. The upper parts should be first dissolved. Chromic acid in powder is the best agent I have found for this. It is spread over the surface and wetted a little and allowed to deliquesce. It penetrates with wonderful speed. It should be washed off with hydrochloric acid. If the chromic acid does not change to a dark brown color in a few minutes, and rapidly eat its way into the tissue, a little fluid containing organic matter, as saliva, will start it. One danger in the use of this acid is that it sometimes produces a good deal of heat, especially if it come in contact with fat. The hydrochloric acid or water will prevent this. The green color produced by the chromic acid reduced by hydrochloric is easily washed off in water acidulated with nitric acid. A dirty white precipitate may be produced on the specimen. This also is washed off without difficulty. The lungs should not be warmed lest the injection flow too readily.

Most of the masses which I have used have been made of paraffin, one to three parts; yellow wax, one part; and melted dammar, about one-twentieth part. Paraffin of rather high melting-point seems best. This is melted with the wax. The gum is melted in a separate dish. Both the paraffin-wax mixture, and the gum must be raised to a high temperature and then mixed, the gum being added in small quantities at a time and well stirred.[1] It is doubtful whether this mass will stand our summer heat. Probably others made of varnish will be better. The paraffin mass is much strengthened if, after the specimen is dry, a quantity of "fixative" varnish be sprayed over it, so as to coat it completely.

The coloring agents which seem best are vermilion, cobalt blue, chrome green, and chrome yellow.

Cold masses I have only recently begun to use. They have many advantages over the hot. My experience with them is not sufficient to enable me to speak of them. Many beautiful preparations have been made with them by others.

In conclusion, let me say that to make corrosion preparations these points must be remembered: 1. Fasten the tubes together to some support. 2. Do not change the fluids too rapidly. 3. Do not handle more than is absolutely necessary, and when you must, always remember what you wish to avoid injuring. 4. The process cannot be hurried. The only thing to do is to fasten everything securely and wait till the specimen is finished. This merely needs patience.

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Cremation in Berlin.—The police authorities of Berlin have recently refused the request of the Cremation Society to be allowed to cremate the bodies of all those who had signified their wish to be so disposed of.

[1] This mass melts at a rather high temperature, but it remains liquid at a temperature sufficiently low to be safe.

## ON THE MODERN VIEWS OF THE ETIOLOGY OF RHEUMATISM, WITH A CLINICAL CONSIDERATION OF THE TREATMENT OF THE SAME.

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In preparing myself for the opening remarks of a discussion on the above subject, before a recent meeting of the German Medical Society of this city, I found not only a good deal of interesting material in recent publications, but also some valuable clinical observations recorded in my note-books, and thought it might be well to elaborate these matters in the subsequent paper.

Inflammatory rheumatism—polyarthritis rheumatica—is known to us as a disease well characterized by fever, by inflammatory affections of the joints and the heart, and by various complications, and is now supposed to have a distinct etiology and pathogenesis. To the labors of Immermann, Edlefsen, Friedlander, and their pupils, we are mainly indebted with regard to a decided modification of our views of the origin of the disease, and the following data may now be considered as nearly proven:

1. Inflammatory rheumatism is not produced by taking cold, *i.e.*, refrigeration of the heated surface of the body.

2. It belongs to the class of miasmatic infectious diseases, assuming an epidemic-like character at certain times, in so far as we are apt to see a larger number of cases when there is decreasing rain and moisture, while with an increase of the same the number of cases is diminished.

3. Rheumatism is also a house disease, the underground of houses in certain locations being infiltrated with the virus, which will be set free after prolonged dryness. and by the air-currents carried into the apartments. One or the other of the three main symptoms of rheumatism may be absent, and yet the affection in question has the same etiology, as, for instance, acute muscular rheumatism, acute endocarditis, acute sero-fibrinous pericarditis, and a good many cases of chorea, though they may not just follow an attack of rheumatic polyarthritis. Furthermore, Immermann has shown us a masked form of rheumatism, presenting itself in the shape of neuralgia of the trigeminal, sciatic, spinal accessory, or other nerves. In March last I had a gentleman under my care who, having repeatedly suffered from gout and rheumatism, had at that time an exquisitely painful affection concerning the left spinal accessory and branches of the fifth pair, associated with slight febrile motions. I failed to relieve him until I gave him the alkaline and salicylate remedies in large doses, when he rapidly improved and got well.

Edlefsen goes further than Immermann, and says that all neuralgias, with the exception of those caused by diseases of the central nervous system, syphilis, meningitis, or intermittens—have an etiology in common with articular rheumatism. Urticaria is considered of specific rheumatic origin by Friedlander and some other authors, but I do not remember more than a very few cases of this affection which showed themselves amenable to antirheumatic remedies in my hands; while the majority appeared to me of neurotic origin, requiring constitutional treatment, and proving more or less refractory at that, particularly as far as the subacute form is concerned.

With regard to scarlatinal rheumatism the opinions are as yet divided—Immermann and others believing the scarlatinal poison to be also the cause of the joint affections, Edlefsen and his followers considering scarlatinal rheumatism to be articular rheumatism, so that a mixed infection would be present in such a case.

Among the many cases of scarlatina that have come under my observation there have been so few of them associated with articular rheumatism that, by this somewhat negative experience alone, I am inclined to believe in the identity of scarlatinal and articular rheumatism. And further than that, rheumatic diseases had occurred in some of the houses where I saw such complications, and

the usual antirheumatic treatment was of good service in relieving them.

It would appear from the above views that the field of rheumatism has been rather enlarged; but we shall not find it so, if we come to separate from it a number of diseases which do not belong to it any longer. First of all, the many painful affections of the locomotor apparatus, some neuralgias and paralyses of motory nerves—particularly of the facial—which may be, and often are, produced by a rapid cooling off of the surface of the part in question, and eminently so when that surface has been hot and perspiring. Erb and Immermann propose to use the word *refrigerate* in designating all such cases, which have thus far been erroneously called rheumatism. Refrigeration is the most important, if not the sole factor in their etiology, and when we speak of refrigeratory myositis, or myalgia, or facial paralysis, we know exactly what we mean by it.

And we have further to expunge from the chart of rheumatism the painful affections of the muscles after severe exertions (Robin's pseudo-rheumatism), the rheumatoid complications of gonorrhœa, chronic bronchitis—bronchectasie, hæmophilie—all of which are due to poisonous influences different from that of rheumatism. Also rheumatoid purpura, or s. c. peliosis rheumatica, as shown already by Senator ("Ziemssen's Spec. Path. and Ther.," vol. xiii., 1, p. 62). I have seen a case of severe and widely spread purpura in a man, fifty years of age, associated with inflammatory hypertrophy of the liver, that ended in cirrhosis, of which he died; another with chloranæmia, in a hard-working girl, twenty-two years of age; another with mercurialism, in a syphilitic man, thirty-six years of age; a number of them of very moderate extent and severity in neurasthenic and anæmic persons, but I have not had a case in which antirheumatic treatment has been of any service. The pains in the limbs and around the joints in such cases are due to œdema, and the more or less cachectic general condition, but not to rheumatic inflammation.

Bacteriological research has not succeeded in advancing our knowledge as to the etiology of rheumatism, but more has been learned by observations of another kind, for the origination of which we are indebted to Edlefsen. In a paper read before the Fourth German Congress for Internal Medicine, in 1885, he argued pretty conclusively that the theory of the influence of cold (refrigeration) was untenable with regard to rheumatism, and showed that while there was a decided connection between the mean temperature of the months and the frequency of laryngitis and bronchitis, the existence of the same connection could not be maintained as to articular rheumatism; and he further proved that the number of cases of rheumatism become less as rain and moisture increases, and more with the decrease of the same, and that pretty frequently a series of cases would occur in one and the same dwelling, and the adjoining houses in particular streets. These observations would show that inflammatory rheumatism is a miasmatic infectious disease, that its virus is of an organic nature and often has its lodgement in the underground of dwellings. These statements were supported at the time of the discussion of his paper by Jürgensen, and Friedlander; later on, by Hirsch, Mantle, Feltkamp, and others. My own records show that the greater number of my cases of polyarthritis rheumatica occurred in February and March, and again in the hot and dry summer months. It might be said that butchers, grocers, marketmen, and saloon-keepers, for instance, which form the majority of the cases I treated, are just the persons who are more exposed to cold than others, and that alone might account for their rheumatism on the basis of the old theory; but they are also the persons who carry on their business, and frequently live in dwellings which are habitually damp, and the underground of which furnishes, in a most luxurious way, the conditions required for the development of the rheumatic poison. In a similar way the frequency of rheumatism among sailors could be explained.

To be sure, frequent exposure to cold and its consequences might create a predisposition to rheumatism, just as we know of well-observed cases where acute rheumatism broke out after a sprain or distortion of a single joint.

If we accept the modern views of the etiology of rheumatism, and put it into the group of the miasmatic infectious diseases, to which it apparently belongs, it will not be difficult to work out a general idea of the pathogenesis of the disease. There is a virus present in the circulation which in one case attacks principally the joints, the endo-, and the pericardium; in another, the muscles; and in another, the nerves, etc.

*Therapeutics.*—Among the many valuable remedies with which modern chemistry has presented us salicylic acid stands in the foremost rank, and its therapeutic powers in inflammatory rheumatism may be considered as great as those of chinin in intermittent. Many of us prescribed the alkaline treatment in the early period of our practice, basing it upon the lactic-acid theory then in vogue, and combining the same with the free use of chinin to control the rheumatic fever. And the results obtained, were they generally unsatisfactory? By no means. The great majority of the patients got well; but more of them so treated drifted into the subacute stage, or acquired endocarditis, leading to valvular disease, or died of hyperpyrexia, than of those that are given the salicylates in the proper way. Experience has taught me that salicylate of soda, mixed with its bulk of bicarbonate of soda, is borne better by the stomach than the salicylate by itself, while it loses none of its efficacy. For a number of years, therefore, I have prescribed, in acute rheumatism, fifteen grains of each salt to adults, and one-half of that to children, every three hours during the day, and the night also in severe cases, until the temperature and pulse became normal, and that very generally was the case on the third or fourth day from the beginning of the treatment. Dr. A. Seibert, of this city, a careful observer, to whom we are also indebted for collecting some valuable statistics which appear to confirm the theory of the miasmatic-infectious origin of rheumatism, prefers giving the salicylate every hour, in order to overcome the action of the rheumatic virus as soon as possible. When he finds the stomach intolerant to the remedy he introduces it by the rectum, and gives it, in children's practice, always that way. He reports to have seen many cases in which pulse and temperature became normal, and the joints free from pain and swelling, in a day, and considers this method perfectly safe and satisfactory. Now, although the salicylate is a great remedy, it is neither omnipotent nor can it be administered in every case with safety and comfort. I have had to deal with many a case in which the head and stomach would not bear it, or a weak heart would soon forbid its use, and others in which it did no good.

There are some observers who have used antipyrin, or antifebrin, or oleum gaultherii in such refractory cases with confidence and success; have even gone further and laid aside the salicylate, and operated with the remedies just mentioned in preference to the standard one. I regret to say that my experience with them in rheumatism has not been such as to induce me to praise them highly. Whether my failure was due to want of patience or want of courage to give them in large enough doses, rather than to the inefficacy of the remedies, I do not care to inquire into now, but am ready to throw those three, and the phenacetin besides, overboard for salol, a compound which has yielded me very good results in cases where the salicylate failed to act or could not be continued. To illustrate by an example. Mrs. S——, aged thirty-six, quite stout and rather strong, pulse regular but weak, heart apparently sound, had inflammatory rheumatism some six years ago, being laid up with it for eight weeks at that time. In March last she was taken with pneumonia of regular type, of which she recovered completely in the course of the second week, and two or three days

thereafter quite an acute attack of inflammatory rheumatism set in, with high fever and all the other usual symptoms, except endocarditis, of which there was no sign at any time of the four weeks during which she was confined to her bed. The salicylate given during the first week failed to cure, and likewise antipyrin and phenacetin given in the second week. The alkaline remedies, ordered in large doses, in conjunction with the tincture of colchicum all during the third week, brought some relief, but did not prevent relapse and extension of the disease to some joints of the upper extremities at the beginning of the fourth week. I then gave of salol fifteen grains every three hours, *i.e.*, five times a day, and had the swollen joints blistered *coup sur coup*, and the patient carefully nourished and stimulated. At the end of that week she was relieved of all troublesome symptoms. I continued the use of salol, *refracta dosi*, for another week, when she was discharged cured.

It would be easy to add five or six cases more of a similar nature, but this would be needless supererogation. I prefer to say a few words more of the comparative frequency of relapses of acute rheumatism, the subacute forms, and those cases in which the disease settles, so to speak, in one or more joints, invalidating or crippling the patient. To expect here to cure by a prolonged course of the salicylate or salol, or another of the modern specifics, would be a vain hope indeed, and end very probably in disappointment to both physician and patient. A great deal can be accomplished, however, and many a case cured by a bold but judicious and prolonged use of the alkaline treatment, with the iodide of potassium in every case where the stomach will take the latter, no matter whether there is a combination with syphilis or no. I have found such treatment very good in rheumatism concerning fat persons, and those bloated with malt liquors when they have not yet anæmia and weak heart. Where the latter complication is associated with rheumatism it is good practice to improve the patient's condition by appropriate general regimen and the exhibition of the muriate tincture or other preparations of iron in large, and digitalis in small doses, and then proceed with specific treatment, prolonged warm baths—natural or artificial—change of air and domicile when there is cause for it, sea-voyages, and the like.

To cite one or two cases may be sufficient for illustration. Mrs. W——, aged thirty-four, had had rheumatism for about two years before I saw her in 1884. There was no valvular disorder, but one wrist, shoulder, and knee-joint were the seat of old exudation, more or less swollen, and distorted and painful, and the patient was scarcely able to be about, and quite unable to do her work. Beginning with a short course of the salicylate, which I am in the habit of doing in almost every case, and generally with some benefit as to recent exudation in old cases, I followed it up with a solution of iodide of potassium and liquor potassæ, which the patient took steadily for nearly six months, when she was free from rheumatism, looked well, and had the use of her limbs as good as before. Her means were such that reasonable care and good food could be provided; but nothing in the way of baths, change of air, or other adjuvants to assist the action of the remedies. Syphilis was not present. Further, I was consulted by a gentleman, some years ago, who suffered in a similar but more pronounced way, and in whose case syphilis could also be excluded. He said he had had all the necessary remedies, and enough of them, would take no more drugs, but was ready to follow any other good advice that I might be able to give him. I asked him if he was a good sailor, and upon receiving an affirmative answer I suggested a prolonged sea-voyage in a sailing vessel. He did not relish the idea of being on board of such craft, but immediately engaged passage on a slow but comfortable steamship line, and crossed and recrossed the Atlantic six times in the course of the summer, when he considered himself cured. On his third voyage he was already able to walk the deck without support, and had good use of his limbs during all the others. However, even after an apparently perfect restoration from chronic rheumatism, the proneness to relapse remains, and the patient, if not already taught by experience, ought to be informed of it, as he will then be more readily inclined to undergo a further course of treatment, which need not be long when begun without delay. Immobilizing dressings I have often used in the subacute form of rheumatic joint affections, when I found much tenderness, swelling, and gelatinous exudation that would not yield to medical treatment. Such appliances were always productive of great comfort to the patient, never did any harm, and very often favored absorption and helped to cure. Blisters over the joints in the acute, relapsing, and subacute forms—an old mode of local treatment, by the way—I have been taught by experience in numerous cases to value highly, and never hesitate to apply them wherever the exudation does not quickly yield to medicine. The ice-bag I have never ordered to be laid over a joint inflamed acutely by rheumatism. I have never seen any good accomplished by it, but remember a few cases in which the rheumatic disease appeared to linger in the very joints which had the ice-bag on.

That a great many joints, more or less diseased and quite unfit for use by chronic rheumatism, have been improved and cured by massage and medical gymnastics applied by experts, there is not the least doubt. But there still remain a number of chronic cases, in which such an amount of mischief has heen done that various joints may be in a more or less disorganized condition, crippling the unfortunate patient for life.

In the experience of Dr. F. Lange, of this city, a number of cases of this kind have come under his care, in which searching inquiry failed to elicit any other cause but rheumatism for the destructive joint-lesions, and in which more or less surgical treatment was required to afford relief.

25 West Forty-sixth Street.

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The Action of Astringents.—In an experimental inquiry upon the mode of action of astringents, Dr. R. Heinz, of Breslau (*Virchow's Archiv*, 116, Hft. 2), finds that, as regards their property of contracting vessels, the minimum strength of solution is, of corrosive sublimate, 0.005 per cent.; of nitrate of silver, acetate of lead, and sulphate of zinc, 0.01 per cent; of cupric sulphate, perchloride of iron, tannin, and alum, 0.05 per cent.; while, in respect to the degree of vascular contraction excited, they may be ranged in the following order: Nitrate of silver; acetate of lead and sulphate of zinc; corrosive sublimate, cupric sulphate, perchloride of iron; tannin and alum. Upon the interesting question of the prevention of inflammation by the use of these substances, Heinz made many experiments on the mesentery of the frog. He found, in the first place, that when the exposed membrane was treated with such solutions, the leucocytes, although accumulating within the vessel along its walls, did not exude and collect outside the vessel, as in the ordinary experiment of mere exposure of the membrane, which is kept moist by salt solution. If a certain amount of inflammation were excited prior to the application of the astringent, the latter caused an immediate arrest of the process. That this was not due to the narrowing of the vessels was proved by using solutions of greater strength (*e.g.*, of tannin, one-half per cent.; alum, two and a half per cent.), whereby dilatation of the vessels is caused. Still higher concentration of the solutions injure the tissues and excite inflammation; and yet, curiously enough, if the application of such be continued for a longer time, inflammatory action is held in check.—*Lancet.*

Paramonobromoacetanilide is the name of a new substance experimented with by Cattani, of Milan, and which he calls, on account of its most noticeable property, antisepsine.

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## THE ARMY MEDICAL SERVICE.

THE Medical Department of the Army has recently made a change in its method of filling vacancies in its ranks. Formerly a medical board of some permanence held its daily sessions in the Army Building in this city, and to it all candidates recommended by the Surgeon-General and the Secretary of War were referred for examination; but as the work involved in filling vacancies did not suffice to keep the board fully occupied, it was dissolved in the interests of economy, for the utilization elsewhere of the services of its members. Under the new system a special board is convened to meet the requirements of the service. As soon as it is ready for work fifteen to twenty-five candidates appear before it at a stated time. Not all these undergo the full course of the examination. Some drop out on the first day on account of physical disqualifications, and others from day to day thereafter as they become discouraged by finding, on careful study, how poorly their text books sustain them in certain matters which they had that day discussed in writing for the scrutiny of the examiners. On the conclusion of their examination a second detachment of fifteen to twenty-five is ordered up and disposed of in like manner; and so on until the whole of the candidates have undergone the ordeal or dropped by the wayside. The aggregation of its work enables the special board to examine in a month as many men as were examined by the old board in a year; but this economy of the time and services of the medical officers constituting the board is not all clear gain to the service. Under the old system a young graduate who desired to appear for examination was able to accomplish his purpose shortly after he took the initiatory steps, because the board was always there; but now, he may have to wait a year before a board is convened to examine him. Meanwhile some opening in civil life may be presented, and the promise of its future changes his views as to the manner of his professional career; or, the temporary pressure of some engagement, family affairs, or personal ailment may prevent him from appearing when the board is ready—and the young years of life are too valuable to be spent in waiting. Formerly the army secured every capable man who felt a vocation for the military life, but now some of the best men will slip away from it—between the sessions of the board.

Hitherto the character of the examinations for position in the Army Medical Department has been as a sealed book to those who were most interested. We print elsewhere in this issue a set of the questions submitted to candidates by the board recently in session. At the end of the written examination the trials culminate, and end in some clinical work in the hospital and operations on the cadaver. After this the successful men find themselves almost immediately commissioned and under orders from the War Department, for as the examination was held to fill existing vacancies no time is lost in filling them, now that the men have been found.

For a young man who has no financial resources or family influence to protect him during the building up of a civil practice the army service offers special inducements. The passed candidate enters at once into a position of responsibility, with the rank, pay, and emoluments of a first lieutenant of cavalry, a rank which is seldom attained by the graduates of West Point under a service of ten or twelve—usually twelve—years as a junior or second lieutenant. At first he may be sent to some large post in the East, where, under the orders of an officer of long service, he will gather experience in the military as well as medical line of his duties. Then he goes out West and has a post of his own, when all the responsibilities of his profession will press heavily on him, and, on account of his inability to call in others for consultation, make him cultivate that preparation for the management of emergencies and difficult cases which gives self reliance to a medical man. During this time his expenses are a trifle compared with his income, which may be largely increased by private practice in the neighborhood of his post, so that at the end of a few years he has saved enough to enable him to settle in any locality if he find army life to be not all that his fancy painted it. Usually, however, the inducements for him to stay, held out at the end of five years' service, largely outweigh all other considerations. Some of these are: the rank of captain, which is reached by the line officer only after a quarter of a century of service; a ten-per-cent. increase on his pay as a captain; a leave of absence for four months, with a trip to Europe, if desired; and, as a matter of fact, not many of those who have stayed for this length of time think now of resigning. The grade of major is not usually reached until after twenty years of service, but as an offset to this, every period of five years brings an additional ten per cent. of pay, until forty per cent. accrues about the time that a majority is attained. At one time this rank of major was the highest that a medical officer could look for; but now that the corps has six colonelcies and ten lieutenant-colonelcies, besides the Surgeon-Generalcy, and a compulsory retirement law which enables the younger men to move up as the older men reach the age of sixty-four, every medical officer can look to retirement with seventy five per cent. of a colonel's income as a provision for his later years.

The medical officer of the army has one grand advantage over his professional brethren in civil life. He is free from all the financial worries and anxieties which break down so many men who have to struggle for their income. There is no uncertainty about his future. He has no occasion to provide for the proverbial rainy day. If sickness assail him his income drops into his hand monthly, as if he were in the steady performance of his work; and in old age he is on the retired list. The won-

der is not that so many of our young graduates go before the Army Medical Board, but that all of our best men are not seduced into the ranks of the army.

### STATE EXAMINATIONS FOR LICENSE TO PRACTISE.

ONE by one the different States are swinging into line along this very important reform in medical education, and it seems a pity that the conflict of various interests delays progress in our own State. We have read with interest the report of the Minnesota Board of Examiners, as given through the columns of one of our Western exchanges. The work of the board has extended over two years. Of ninety-four candidates, thirty have been rejected.

In looking over the list of questions of an examination just held, we are impressed by their straightforward character. They ask for just what every practitioner should know. The number of them is greater than is generally given on our leading college papers, but they bear, on the whole, a more practical nature. Special papers on histology and pathology are inserted in addition to the more general questions in medicine and surgery, requiring knowledge on these points.

These satisfactory results have not been attained without opposition. Low grade institutions in neighboring States, whose graduates could not pass the Minnesota examinations, have endeavored to secure repeal legislation, but fortunately the law has stood. It is not without some chagrin that we, in this State, contemplate the advances which are being made in these respects in other communities. It is not a matter affecting sects or particular institutions, but rather the standing of the profession in its broadest sense, and the welfare of the community. The fact is that the greatest advance in this direction has been made by States, with the exception of Virginia, which are not generally regarded as medical centres. In our own State there are many conflicting interests to harmonize; not so many, however, but that each one could have a full representation in a State Board. Mutual supervision would be sure to prevent any one side from securing an undue advantage.

Some details of the Minnesota statute are not without interest. The percentage required for securing a license differs with different subjects. Sixty-five per cent. is required from all applicants in materia medica, surgery, practice of medicine, obstetrics, and gynecology. Fifty per cent. is required in all other branches from graduates of less than five years standing; for all others, but thirty-five per cent. is required in these same remaining branches.

### A NEW OPERATION FOR LACERATED PERINEUM.

A NEW operation has been proposed by Mr. Alexander Duke, for the repair of lacerated perineum, which seems to possess some advantages, in certain cases at least, over those at present in vogue. The procedure, which is described in the Dublin *Medical Press* of May 9, 1889, is apparently quite simple, and if it prove to be as efficacious as Mr. Duke believes it will, it ought to take rank among the recognized operations for the relief of this condition.

The method is in brief as follows: The patient is placed either in the lithotomy or Sims position, the left index-finger being introduced almost its entire length into the rectum; a long, straight, double-edged bistoury is made to pierce the tissues in front of the anus at right angles to the vulva; and, guided by the finger in the rectum, is made to penetrate the septum for two and a half inches upward, the incision being enlarged laterally to two inches at least, as the knife is withdrawn. On the two points of incision being pressed together from side to side a lozenge-shaped opening appears, and when all the sutures required have been introduced and are properly adjusted and approximated, the two cut surfaces are brought into direct apposition. The sutures are introduced by a strong cycle-shaped needle with eye in the point mounted on a handle, strong silver wire being the suture preferred. The needle is introduced at the centre of the skin incision below, and, guided by the finger in the rectum, is made to travel over the cut surface to its full extent above, describing the arc of a circle, and, on the point of needle appearing directly opposite, it is threaded with the suture and drawn through. When all the necessary sutures have been introduced and approximated, a finger of each hand passed into the rectum and vagina will at once recognize the gain in thickness of the septum, the external tissue being pushed fully an inch forward from the anus, and forming a thick and solid perineal body. The incision being a deep one, on union taking place between the raw surfaces, a considerable depth of support must be afforded where a pessary is required, or where there is much tendency to prolapse of the uterus or vaginal walls.

Mr. Duke's experience of the operation, although up to the present limited, has satisfied him, he says, with the results, and, there being no loss of tissue whatever, should the operation fail, it cannot add any difficulty to a subsequent one. The following are the advantages which he claims for the operation:

1. The simplest of performance as yet proposed. No danger of hemorrhage, the surfaces being brought together at once, and the wound is dry and clean.

2. No danger of sepsis, as the incision is not open for the admission of any discharge from either vagina or rectum during the healing process.

3. No loss of tissue, and consequently no harm done should the operation fail.

### PHOSPHORUS IN THE TREATMENT OF RICKETS.

THE use of phosphorus in rickets, so much vaunted by Kassowitz and others a couple of years ago, has not, we believe, found much favor in this country. A very extensive trial of the remedy has recently been concluded by Dr. L. B. Mandelstam, of Kazan, who publishes the results in *Vratch*, Nos. 5, 7, 9, 10, and 11, 1889. These experiments extended over a period of nearly three years, and the number of patients upon whom the phosphorus was tried was 450, their ages running from three months to four years. Of this number, however, 234 were excluded from the statistics, either because they did not take the phosphorus long enough, or in the proper way, or because the disease in them was not sufficiently pronounced to make the experiment a satisfactory one.

Of the remaining 216 children, 120 were cured, 43 were markedly benefited, in 30 no improvement was

noted, and in the remaining 23 the treatment was discontinued on account of some intercurrent disease. The remedy was given dissolved in cod-liver oil, in the proportion of one part to ten thousand of oil, of which a teaspoonful was given once or twice a day. When it was not deemed advisable to give cod-liver oil, the remedy was administered, after the formula of Kassowitz, in a mixture composed of $\frac{1}{100}$ part of phosphorus, 15 parts each of gum arabic and sugar, 30 parts of almond oil, and 40 parts of distilled water. Dose, a teaspoonful once or twice a day. No other remedy was employed, except when diarrhœa was present, and then an attempt was made to cure this before giving the phosphorus.

The following are the conclusions which the author feels himself justified in formulating as a result of these experiments:

1. Clinical observation justifies fully the employment of phosphorus in rickets.

2. Phosphorus acts better, more quickly, and with greater certainty than any other remedies.

3. This drug, when given in small doses, even for long periods of time, is well borne by children, and causes in them no unpleasant effects.

4. Phosphorus is especially efficacious in controlling the nervous manifestations of rickets.

5. Periodical measurements and weighing of the children, as well as observation of the osseous structures, show that the disease is actually arrested in its course and cured, in the great majority of cases, under the influence of phosphorus.

Another trial of the same remedy was made by Dr. Shabanova, whose report is presented in *Vratch*, Nos. 16, 17, 18, and 19, 1889. She treated 105 patients, and obtained perfectly satisfactory results in 77. In 22 an improvement was noted, and in 6 cases there was an aggravation of the disease while the treatment was being continued. The first effects of the remedy were seen in an improvement in the nervous symptoms, and later, in favorable cases, a change for the better was seen in the general health, and in the condition of the bones and muscles.

## News of the Week.

The Fourth Annual Meeting of the Association of American Physicians will be held in Washington, on September 18, 19, and 20, 1889. The Association will meet in the building of the Medical Museum and Library. The following programme is announced: The President's inaugural address, by Dr. Francis Minot, of Boston; "The Early Stage of General Paralysis," by Dr. C. F. Folsom, of Boston; "Tetany," by Dr. James Stewart, of Montreal; "Tetany and a New Theory of its Pathology," by Dr. John T. Carpenter, of Pottsville, Pa.; "Thrombosis of the Cerebral Sinuses and Veins," by Dr. A. B. Ball, of New York; "Chylous Effusions into Serous Cavities," by Dr. S. C. Busey, of Washington; "Substitutes for Opium in Chronic Diseases," by Dr. J. F. A. Adams, of Pittsfield, Mass.; "A Remarkable Case of Slow Pulse," by Dr. D. W. Prentiss, of Washington; a discussion on "The Relation between Chlorosis, Simple Anæmia, and Pernicious Anæmia, including Leucocythæmia and Hodgkin's Disease," by Dr. Frederick P. Henry, of Philadelphia, Referee, and Dr. F. Forchheimer, of Cincinnati, Co-Referee; "Primary Cancer of the Duodenum," by Dr. E. N. Whittier, of Boston; "Primary Cancer of the Gall-bladder and Ducts," by Dr. John H. Musser, of Philadelphia; "Gastric Neurasthenia," by Dr. G. M. Garland, of Boston; "Specimens from Two Cases of Cretinism," by Dr. W. F. Whitney, of Boston; "The Anatomical and Physiological Relations of Lesions of the Heart and Kidneys," by Dr. H. F. Formad, of Philadelphia; "The Contagium of Diphtheria," by Dr. P. Gervais Robinson, of St. Louis; "A Supplementary Inquiry into the Frequency with which Lead is found in the Urine," by Dr. James J. Putnam, of Boston; a discussion on "The Relations of Rheumatism to Rheumatoid Arthritis," by Dr. William Osler, of Baltimore, Referee, and Dr. Morris Longstreth, of Philadelphia, Co-Referee; "How far may a Cow be Tuberculous before the Milk becomes Dangerous as a Food-supply?" by Dr. Harold C. Ernst, of Jamaica Plain, Mass.; "The Bacillus Tuberculosis," by Dr. J. T. Whittaker, of Cincinnati; and "Hot-air Inhalations in Tuberculosis," by Dr. E. L. Trudeau, of Saranac Lake, N. Y. The annual dinner will take place on Thursday, September 19th.

A Prize for an Essay on Bacteria.—The Dutch Scientific Society in Haarlem offers a prize of one hundred and fifty gulden for a critical review and exhaustive description of the different kinds of bacteria contained in drinking-water before and after its filtration through sand, and of the methods of determining the characteristics of every kind. The judges will award an extra prize of one hundred and fifty gulden if they consider the successful competitor worthy of it. All competitive essays must be filed with the Society's secretary before January 1, 1890, and must be written in the French, Dutch, or German language.

Dr. E. Parsons, of Savannah, Ga., who is said to have been the oldest practising dentist in the United States, died at his home in that city on August 20th. Dr. Parsons was born in Northampton, Mass., in 1806. He was educated in Cincinnati and Philadelphia. In 1843 he went to Savannah, and until a few months ago has been practising his profession.

The Next Meeting of the American Medical Association.—Our esteemed contemporary the Nashville *Journal of Medicine and Surgery* remonstrates with us gently for not having approved fully of the choice of the American Medical Association of Nashville for the place of its next annual meeting. He reminds us that that city is no village, and assures us that it will be well able to entertain as many members of the Association as may put in an appearance. We never once doubted the hospitality of Nashville; it was only the question of its ability to provide for such a number that caused us some apprehension. But we assure our contemporary that our fears are now removed, such is the effect of his convincing eloquence.

St. John's Guild.—Over twenty-three thousand sick children and their mothers have been carried on the fresh-air excursions of the St. John's Guild floating-hospital barge this season, and the sea-side hospital of the Guild at New Dorp, S. I., has been constantly filled to its utmost capacity.

Dr. J. R. Taylor has been elected to the chair of Pathology, Practice of Medicine, and Clinical Medicine in the Medical College of the State of South Carolina at Charleston, S. C., *vice* Dr. John Guitéras, who has resigned, to accept the chair of Pathology at the University of Pennsylvania.

Two More Young Living Fœtuses.—Dr. Henry K. Palmer, of Trinidad, Col., writes that he had had a case similar to those previously reported in these columns. A woman ceased to menstruate on May 31st, and on October 28th was delivered of a living child, nine inches in length, and weighing eighteen ounces. The child was wrapped in cotton and lived for twenty-seven hours after birth. Dr. W. K. Prichard, of Cloverdale, Ind., reports another case of like nature. The mother menstruated last on February 11th, and the child was born on June 26, 1889, four and a half months later. The child lived five days, and its bowels and kidneys acted normally, though the nurse said that the urine looked like milk. The child's eyes were closed at birth and remained so throughout its brief existence. Cases of this sort are not so very rare. It is uncommon, indeed, to see a viable fœtus under the seventh month; but one of five or six months or even younger, if living when expelled from the uterus, must take time to die just as well as an older child.

Dr. Sigmund Lustgarten, formerly of Vienna, has removed to America and intends to reside in New York. Dr. Lustgarten was for some time Privatdocent in Vienna, and in that way is known to many Americans. He is also more widely known as the discoverer of the bacillus of syphilis which is called by his name.

An Epidemic of Diphtheria.—The town of Moscow, O., is reported to be suffering severely from an epidemic of diphtheria. The time will come when an epidemic of disease in a place will be looked upon as a disgrace to the community, as great, if not greater, than would be a series of robberies, or rapes, or of any other crime.

A Case of Inoculated Leprosy.—At the Dermatological Congress held recently at Prague, Dr. Arning gave an account of a case of inoculated leprosy in the Sandwich Islands. In 1884 he was permitted to inoculate a condemned criminal, with the latter's consent. The man whom he inoculated had no inherited taint. The immediate result of the inoculation was negative, but four weeks later the man was attacked with an affection resembling subacute rheumatism without fever. The first joint involved was the left elbow, and then other joints became attacked, the attack lasting for four months. Then occurred some swelling of the left ulnar and median nerves, which subsided in the course of six months. Meanwhile there had developed on the scar at the site of the inoculation a typical leprosy nodule, from which abundant bacilli were obtained. Since Dr. Arning had returned to Europe he had learned that the disease had made considerable progress, and the unfortunate man was now in a condition of marked marasmus.

An Unrecognized Medical School.—The Hudson County, N. J., Board of Health refused recently to allow two young men, graduates of the New Jersey College of Medicine, to register as practising physicians. The college is a new concern, started by some eclectics, and these men were its first graduates. The counsel of the Board, it is reported, said that the college was chartered by the State, and that the Board therefore had no right to refuse to register the applicants. The Board did so refuse, however, for it decided that the college had no right to grant diplomas.

Dr. James L. Cabell, professor of physiology and surgery in the medical department of the University of Virginia, died in Albemarle county on August 13th. He received his medical degree in 1833, and afterward studied in Paris. Dr. Cabell was widely known in Virginia, and had served at different times as president of the State Medical Society, of the American Public Health Association, and of the National Board of Health.

Dr. Herman B. Inches, one of Boston's oldest physicians, died in that city on August 19th, aged seventy-seven. He was a graduate of the Harvard Medical School in 1834.

The Fifteenth Annual Meeting of the Mississippi Valley Medical Association will be held at Evansville, Ind., September 10th, 11th, and 12th. Those who will attend are advised to take receipt for full fare going to Evansville, that they may secure return tickets at one-third fare. The titles of nearly one hundred papers have been received for the programme, and the indications are that the meeting will be larger than any yet held by the Association. The problem confronting the members will be, not how to fill up the time of meeting, but how to stretch out the meeting sufficiently to accommodate all the papers. Perhaps fewer papers more leisurely discussed would be productive of better results in the end.

Dr. Ferdinand Hueppe, the author of the well-known "Methods of Bacterial Study," and who has for several years directed the bacterial department of Wesenius' celebrated laboratory in Wiesbaden, has been elected professor of hygiene in the University of Prague. The addition of Professor Hueppe to the working and teaching force of the University of Prague is an important feature in the growing attractiveness of Prague to American medical students who go to Europe for a few months of quiet study, and wish to avoid the overcrowded courses and distracting bustle of the larger medical centres.

The Hygiene of Tuberculosis.—At a recent meeting of the Paris Academy of Medicine, M. Villemin read a report of the Special Committee appointed by the Congress for the Study of Tuberculosis last year, which it was proposed to publish, with the object of instructing the laity as to the nature of the disease and the best means of avoiding contagion. The report calls attention to the fact that pulmonary phthisis is not the only form in which tuberculosis manifests itself, but that many cases of pleurisy, peritonitis, meningitis, and bone and joint diseases are often tuberculous. The report insists upon the contagiousness of the disease, and refers to the various ways in which the bacillus may gain entrance into the body. Since the sputa of phthisical patients usually contain the bacilli in large numbers, special care should be paid to the immediate destruction of all expectorated matters. The report also insists upon care in the matter of food, since milk, beef, and fowl are found not uncommonly to contain the bacilli. Milk should, therefore, be boiled before being given to children, and meat thoroughly cooked.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

(Special Report for the THE MEDICAL RECORD.)

*Fifty-seventh Annual Meeting, held at Leeds, England, August* 13, 14, 15, *and* 16, 1889.

### TUESDAY, AUGUST 13TH—FIRST DAY.

DR. W. T. GAIRDNER, the retiring President, occupied the chair, and, after the reading and approval of the very voluminous minutes of the last meeting, delivered a short address. He said that it was now his duty to put an end to his official existence, and although it was, under the circumstances, a pleasant duty, he nevertheless wished to do it as briefly as possible. It was not desirable that a dying actor should remain too long on the stage. As President he might be said to be in a moribund condition, and to be handing on his torch, such as it was, to his successor, who did not, however, come out of the dark. Mr. Wheelhouse had been long before the Association, not only as one of the most active members of the profession in Leeds, but also as their representative on the General Medical Council. It was within the knowledge of those who had long been members of that Council that no man in it stood higher than did Mr. Wheelhouse in the opinion of that body. He was recognized as possessing tact, business talent, and every other quality that went to make a good Medical Councillor. He need not say that such a man, who added to those qualities high distinction as a surgeon, was eminently qualified to be the President of the Medical Association. He should himself resign the chair with feelings of warm gratitude toward all the members and officials of the Association for the way in which they had held up his hands during the period of his presidency.

MR. G. C. WHEELHOUSE, the President-elect, then took the Chair and made the following remarks: If in receiving the torch from Dr. Gairdner's hands he could carry the light still further before them, and could guide them aright, he should, of course, have the greatest possible pleasure in doing so; but he was not unaware of the fact that the task was a very difficult one. It might seem to those who came to the annual meetings, and only saw the happy, social side of the work, an easy thing; but those who knew anything of the hours spent in Council trying to guide the Association in its proper lines, and to do that which was right by every member of the Association, now numbering 13,900, were aware of the difficulty of the undertaking. He had not willingly accepted the honor they had done him in placing him in the chair, but he would, nevertheless, do all in his power to fulfil worthily the grave task which had been imposed upon him.

THE ANNUAL REPORT OF THE COUNCIL

was then read. In referring to the growth of the Association the report took the three meetings at Leeds as mileposts showing the rapid strides in membership. At the time of the first meeting at Leeds, in 1843, there were only about 1,600 members; in 1869 the Association again met in that city, and then numbered nearly 5,000; now, at the time of the third meeting in Leeds, the membership exceeded 13,000. The finances of the Association were in a very flourishing condition. The report closed with an expression of confidence in the ability of the editor of the *Journal* and in his devotion to the best interests of the association.

After some discussion the report was adopted. It was then resolved, on motion, that the members of the Royal College of Surgeons shall have a voice in the management of the college and in the election of its council.

A VOTE OF THANKS TO THE RETIRING PRESIDENT

was then moved and carried with great acclamation, and he was then elected Vice President for life

THE INEBRIATE'S LEGISLATION COMMITTEE

made a report in which it was stated that at length a permanent measure had been enacted for the benefit of inebriates. The members of the profession were coming very generally to the belief that inebriety was not always a crime, but was, in many cases, as clearly a disease as gout or insanity. This was encouraging, and the committee hoped that the good work already begun would be continued until public opinion had been educated to a point where it would be universally recognized that it was the duty of the Government to provide for the care and treatment of diseased inebriates.

Reports were also presented from the Committees on Scientific Grants, on Therapeutics, and on Collective Investigation. The last-named committee complained of a want of support from the profession at large, said that its inquiries were not responded to very generally, and suggested that it be allowed to lapse at the end of its official year in October next.

In the afternoon a special service was held in the parish church of Leeds, when the Bishop of Ripon preached to a crowded congregation on the subject of

DIVINITY AND MEDICINE.

He took for his text the words, "I have compassion on the multitude" (St. Matthew xv. 32). The conflicting thoughts and opinions of men were, he said, chiefly on the surface, but deep down there was union, and when petty differences were put aside all men were at last found to be of one mind in a house. There might be differences between religion and science, yet divines and physicians often walked side by side under the guidance of the principle of compassion. If divinity had had among the islands of the ocean a heroism like that of Father Damien, consecrating his life to disease and to death, medicine had had in their hospitals those brave men who had not hesitated to put their lips to the poison and draw death to themselves to save the child or the weak. Those things were their common heritage, for, after all, were they not expressions of the one great principle of compassion? They marched together thenceforward.

In the evening the members assembled in the Coliseum to listen to

THE PRESIDENT'S ADDRESS.

MR. WHEELHOUSE dwelt first upon

THE VARYING PROGRESS MADE BY MEDICINE

through the ages. Sometimes, he said, in the current of events her progress has been labored and slow; with halting and uncertain steps, with Arabian mythologists, astrologers, and such like visionaries as her companions, she has picked her way through gloomy times of mystery, uncertainty, and doubt. At times the light of truth has shone upon her path more brightly and has cheered her on her way; and with the Harveys, the Sydenhams, the Jenners, and the Hunters, the Dupuytrens, Laennecs, and Pasteurs of the world for her companions she has walked with firmer steps until at last she has become an acknowledged power, and stands forth as the companion of even the exact sciences. Each generation of her votaries, as it passes across the stage of the world's history, is henceforth bound to leave a mark behind it as its contribution to the sum of existence, and that mark must, in the aggregate, be the result of individual efforts. To some it is given to do great things, and to stand revealed by the unmistakable stamp of genius; to some, by more prolonged and patient effort, to leave an impress which, if it be not so brilliant, is yet equally fruitful and enduring; and to everyone of us, however humble may be the current of his life, it is permitted to make his mark, to add his little contribution to the total sum of a ceaseless progress, and to advance it or to hinder its advance.

He next referred to

THE COMPARATIVE ISOLATION OF PRACTITIONERS IN FORMER TIMES,

and to changes which had been brought in these later times by the wonderfully improved means for personal communication which have come by the advent of railways and the telegraph. The facilities for the spread of knowledge are now so increased that no discovery, in whatever part of the world it may be made, can wait long before becoming the general property of all.

The speaker then drew a picture of

THE GENERAL PRACTITIONER OF SEVENTY YEARS AGO.

He was usually a hard-working, industrious man, who thought little of bodily exertion, and who spent the greater part of his time in his saddle; a hard-thinking man, but one whose mental training had not been great, nor his education elaborate; whose opportunities for the acquisition of professional knowledge had been few and short. Knowledge and practice alike were purely empirical with him, and though he could treat disease with skill, and could, in most cases, give a good account of his war fare, it was purely by empirical means that he did it. His great panacea for all ailments was blood-letting, and his pocket was never unarmed with the all-potent lancet. He next turned to a consideration of

MEDICAL SCIENCE OF THE PRESENT DAY,

which was, he said, and the fact could not be gainsaid, far in advance of that of the beginning of the present century.

PUBLIC MEDICINE

was the next theme dwelt upon by the speaker, and which he defined as a science which seeks ever, even at the risk of its own extinction, to exterminate the causes of disease and death, and to eradicate from the world the very springs and sources from which they arise. It was now impossible for any epidemic to run riot as it did in former times. Can any work, he said, be nobler than this.

The subject of

MEDICAL EDUCATION AND EXAMINATIONS

was then considered at some length, and an ideal course of instruction for the medical student was sketched.

In concluding, the speaker said that, notwithstanding the infinitely greater knowledge and utility of the practitioner of the present day, there was a limit to his power —there was

ONE PLAGUE-SPOT

which even he will fail to conquer, and which will remain to fester, to kill its thousands, to maim, disfigure, and to sap the health of millions, of deserving and of undeserving alike, and, as the great curse of humanity, to baffle all our efforts to arrest the progress of disease, and to render them futile and abortive. This is the curse that steadily and vindictively pursues the track of licentiousness, of ungoverned passion, of hateful sensuality; and so long as human nature remains what it is, and is left in unbridled possession of the means of gratification, no ray of either light or hope will fall on that dark track. Some day men may have become sufficiently enlightened to submit to

NECESSARY LEGISLATION

and restrictions on this and cognate subjects; but, until they do, the foul stream will continue to meander hither and thither, and whithersoever it will through the world of life, will poison its springs, will wither even its fairest blooms, and destroy its richest fruits without selection and without mercy. By the cultivation of bacteriology and cognate sciences, by a deeper and more profound acquaintance with natural phenomena and laws, the time will come when the whole range of zymotic and exanthematous diseases will have been subdued and conquered; when the seeds of each will have been isolated, and so studied that their individuality will be recognizable; the soils in which they will grow and those in which they will lie sterile will be known and appreciated, and be brought under cultivation by the hands of the medical men of the day; and when, by the spread of sanitary science, the whole human race may be protected from their evil influences. It will not be in our day that these mighty triumphs will be won, but our successors will undoubtedly achieve them; and the time will certainly come when the kingdom of disease will be so closely narrowed down that only the necessary accompaniments of the changes and vicissitudes of natural laws, the evils attendant upon the wilful disobedience of those laws, the innumerable accidents to which life and limb must be forever liable, and the inherent defects and deficiencies in the harmonious working of the parts of a machine so exquisitely and delicately constructed as is the frail body which for a time we inhabit will be the only kingdom in which the professors of medicine and surgery will be called upon to exercise their sway. Then

THE VICTORY OF MEDICINE WILL BE COMPLETE,

and the day will have come when the world will be called upon to acknowledge that the labors of the physician and the surgeon, patient, enduring, untiring as they have been through all time, have not been in vain, and have reached their final consummation.

After a vote of thanks to the President had been moved and carried,

A PROTEST AGAINST THE MANAGEMENT OF THE "JOURNAL,"

signed by Sir Joseph Lister and others, was read. In this letter the writers threatened to resign from the Association if their protest was not heeded.

On motion of Mr. Lawson Tait, seconded by Dr. Robert Barnes, the steps taken by the Council for the management of the *Journal*, were approved, only one dissenting vote being recorded.

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WEDNESDAY, AUGUST 14TH —SECOND DAY.

DR. BRIDGWATER moved that the Council be empowered to arrange for a place of meeting for 1890, and also to appoint a President elect. It was stated that no definite invitation had been received for this meeting.

DR. J. HUGHLINGS JACKSON then delivered the Address on Medicine (see p. 225) entitled

A COMPARATIVE STUDY OF DISEASES OF THE NERVOUS SYSTEM.

On motion of Dr. Eddison, seconded by Dr. Bristow, a vote of thanks was unanimously tendered Dr. Jackson for his address.

DR. BRIDGWATER, in a few well-chosen words, then announced the

AWARD OF THE STEWART PRIZE.

This prize had been founded by the late Dr. Alexander P. Stewart, who had left a sum of money, the interest of which was to be given each year to one who had done the best work of the year in the study of epidemic diseases. The prize for this year had been awarded to Dr. Klein for valuable researches on micro-organisms, and more particularly for work in connection with the etiology of scarlet fever.

DR. KLEIN, in a few words, returned thanks for the honor conferred upon him in the award of this prize, which he chose to regard as an acknowledgment of the services rendered to the science of medicine by bacteriology.

The President, Council, and Senate, gave a reception to the members of the Association at the Yorkshire College, and in the evening the President and the Local Examining Committee gave a conversazione in the municipal buildings.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, April 24, 1889.*

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

DR. EUGENE HODENPYL presented a series of specimens illustrating

### LESIONS AND MALFORMATIONS OF THE HEART.

Two hearts were shown in which there were chordæ tendineæ stretching across the cavity of the left ventricle. The speaker thought that this was not a very rare condition, and that it would be found more commonly than it is, were care used in opening the ventricle. In one of these cases a murmur was heard before death, but no particular importance was attached to it. He asked what had been the experience of the members present in regard to the production of murmurs by these chordæ. He had seen about fifteen cases of this sort recently, and in only one had the existence of a murmur been noted.

### DILATATION OF THE HEART WITH BUT SLIGHT HYPERTROPHY.

A young man had suffered all his life from symptoms of cardiac trouble. He also had Pott's disease of the spine. At the autopsy there was found an enormous dilatation of the left ventricle, with comparatively but a slight degree of hypertrophy. The aorta in this case was of very small size.

### ANEURISM OF THE MITRAL VALVE.

This heart was removed from the body of an old man who had been in the hospital for some time with symptoms of heart disease. He was found dead in bed one morning. At the autopsy the heart wall was found fatty throughout, and there was very marked thickening, with stenosis of the aortic valve. The aorta was atheromatous. An aneurism, about the size of a filbert, was found on the mitral valve.

### AN INCORRECT DIAGNOSIS OF AORTIC ANEURISM.

The specimen was removed from the body of a woman, forty-seven years of age, who had suffered from what was supposed to be an aneurism of the aorta. At the autopsy, however, no aneurism was found, there being only a very moderate degree of dilatation of the arch of the aorta. The aortic valves were thickened and stenosed, and one cusp was almost entirely obliterated. There was also a band of fibrous tissue stretching across the cavity of the left ventricle. On the surface of the lungs, beneath the pleura, were numerous little air-sacs.

### APOPLEXY OF THE OVARIES.

The same patient also had two fibroid tumors of the uterus, and the ovaries were rather peculiarly diseased. The surface of the organs was of a purplish color, and on section the cut surface was found to be almost jet-black mottled with white. The black color was found on examination to be due to the presence of altered blood, and the white spots were probably old corpora lutea.

### MULTIPLE ANEURISMS.

A man about fifty years of age was admitted to the hospital, suffering from an aneurism of the subclavian artery. The treatment consisted in ligation first of the carotid artery. The patient did well after this operation, and then the third part of the subclavian was ligated. This was not so successful, and the man had a secondary hemorrhage. Then the axillary artery was tied, but the patient died shortly afterward. A few days before death he suffered intense dyspnœa and had a severe cough. At the autopsy an explanation of the dyspnœa was found in the presence of a rather large aneurism of the innominate artery which pressed upon the trachea, narrowing its lumen. There was also a fusiform aneurism of the aorta, which had not been suspected during life.

DR. GEORGE R. LOCKWOOD, JR., said, in regard to the production of a murmur by chordæ tendineæ stretching across the ventricle, that such might very readily occur if the chordæ were attached to a papillary muscle, and were thus rendered tense. In the specimens shown by Dr. Hodenpyl, however, there was no such attachment; the cord would therefore become relaxed during systole, and consequently there could be no vibrations in it to cause a murmur.

DR. FRANK W. JACKSON thought it would be a very difficult matter to diagnose the presence of intra-ventricular bands. It was sometimes comparatively easy to diagnose an intra-ventricular murmur, and he had a patient now under observation with a heart murmur which he was confident was intra-ventricular; but it was a very different matter to determine the cause of this murmur, since several distinct conditions might occasion it.

DR. F. S. MCHALE presented a specimen showing

### TUBERCULOSIS OF THE PERICARDIUM.

It was removed from the body of a man forty-five years of age, who had had a cough for the past three years. Three weeks before admission to hospital, after exposure to the wet, he had an increase in the cough, which now became very severe, and pain over the entire length of the sternum. His face was drawn, flushed, and covered with perspiration. For a time there was some œdema of the leg, but this disappeared in about a week. At the autopsy no marked gross lesions were found anywhere except in the heart. This organ was enlarged, and the pericardium was irregularly thickened, and its cavity contained fibrin and pus. The inner surface of the parietal layer was studded with whitish nodules. Dr. Hodenpyl examined the specimen and reported that the new-growth was made up of small spheroidal, epithelioid, and giant cells. Examination of the kidneys revealed the presence of nephritis.

DR. HODENPYL said that it was important in these cases to note the condition of the bronchial and mediastinal glands. Weigert had lately made the assertion that the so-called tuberculosis of the pericardium was always primarily a tuberculosis of the mediastinal glands.

Dr. Hodenpyl then presented two specimens of

### TUBERCULAR PLEURISY AND PERICARDITIS.

The first specimen was from a man thirty-four years of age, who had been exposed four months before his death to cold and wet. He developed a cough, and then began to suffer from dyspnœa and loss of appetite. Physical examination revealed a pleuritic effusion on the right side. The patient was tapped several times, a large amount of bloody serum being drawn off each time. At the autopsy the pericardium was found completely adherent and thickened.

The second specimen was one apparently of primary tuberculosis of the pleura, with secondary affection of the pericardium. In this case the bronchial glands were examined and found to be tuberculous. On microscopical examination the sections showed almost the same appearances as those seen in Dr. McHale's case. The tubercles were somewhat cheesy, and contained large numbers of giant cells.

DR. WILLIAM P. NORTHRUP presented a specimen of

### ADHERENT PERICARDIUM

with dilatation and hypertrophy of the heart.

The patient was a male child, aged thirteen months. His only illness was double otorrhœa, so far as recorded. He was cross and fretful by seasons. Never had any contagious disease, unless possibly measles. Two days before death his respirations became rapid—60 per minute; the pulse was 160, while his temperature remained 99°. One day before death temperature was 100°, the extremities were cold, and the child screamed, apparently from pain, and seemed to be dying. He died without convulsions.

On autopsy, the body was found well nourished; brain normal. The heart was enlarged; weight 5 oz. 5 dr. The pericardium everywhere was adherent by loose bands which allowed moderate movement of the adjacent pericardial layers. The auricles and ventricles were dilated, and their walls were hypertrophied. The valves were normal, and the foramen ovale was closed. The great vessels were normal. The lungs were congested, œdematous, and flabby. The bronchial glands were moderately enlarged and dusky. Kidney, cortex pale; marking indistinct.

Dr. R. S. Freeman had looked up the literature of adherent pericardium in young children and had found the following cases reported. E. Cerf [1] reported forty-three cases of pericardial adhesion; of these the youngest was eight years of age. Samuel Wilks [2] reported six cases in early life; the youngest was nine years of age. A few cases in very early infancy are on record. A case was reported in Vienna where retraction over the apex was noticed on the eighth day, and at the autopsy fresh adhesions were found. Bednor found adhesions in a child of three months. Billard [3] makes the following note on the autopsy of a child, aged two days. There were "firm adhesions between layers of pericardium, producing belief that they were the product of former pericarditis developed during evolution of fœtus." This condition in a new-born child is also reported by Huetner.

Dr. Northrup presented a second specimen showing

ABSENCE OF THE SEPTUM AURICULORUM,

dilatation and hypertrophy of the heart, and acute exudative nephritis in a child aged thirteen and a half months. The child had always been "miserable" and irritable, but never sick. There was no history of scarlet fever or diphtheria, and the child was not a blue child.

On autopsy the heart was found very large, its common auricle being distended with dark clot, the walls of the auricle and ventricles were thickened. The ventricles were empty. There was a thin, membranous, crescentic rudiment, the only attempt at a septum auriculorum. The lungs were moderately congested, uniformly; no consolidation, no bronchitis; slight œdema.

Kidneys enlarged, cortex thickened, pale, markings varying from moderately distinct to indistinct and obliterated. The pyramids were congested, and in them and about their bases were masses of hemorrhage, and within the hemorrhagic masses pale spots. The striations and mottlings were found, under the microscope, to be formed of alternating masses of pus and hemorrhage. There were also hyaline casts and drops of cast matter within the tubes; also necrosis of the epithelium of many convoluted tubes. The urine from the bladder showed pus only. Other organs normal.

Four other specimens were presented, showing hernia in children. One of these specimens was of double congenital inguinal hernia. On the right side the cæcum and a few inches of the ileum were in the sac. On the left side the sac was empty. The opening easily admitted the end of the little finger.

Dr. Armstrong asked what was the experience of the members present in regard to the frequency of a patent foramen ovale. He had found it so often that he had almost ceased to look upon it as a rarity.

The President had seen it a number of times, and in many cases there had been no symptoms during life leading to a suspicion of the condition.

Dr. Ferguson said that some three years ago he had presented before the Society a series of specimens of patent foramen ovale. In every instance, however, there was a valve-like arrangement which effectually closed the opening in the septum, one part lapping over the other so that no direct opening existed. There was no cyanosis or other symptom during life pointing to the presence of an incomplete septum.

Dr. Armstrong said that in one of the cases of patent foramen ovale which he had seen there were four segments to the valve of the pulmonary artery. He had seen this condition several times.

Dr. H. S. Stearns presented a specimen of

TUMOR OF THE DURA MATER.

The tumor was of rather large size, and examination showed it to be a sarcoma. No extensive clinical history had been obtained, but it was stated that the man had been paralyzed a short time before death.

Dr. J. West Roosevelt presented some corrosion specimens, with remarks (see p. 237) upon

SIMPLE METHODS FOR MAKING CORROSION PREPARATIONS SHOWING THE GROSS ANATOMY OF LARGE VISCERA.

Dr. Freeborn exhibited a corrosion specimen, showing the terminal air-cells in the lung, which he had made several years ago. The injection material was celloidin. It was mounted in glycerine jelly, which the speaker thought was a very good medium for the celloidin. He had used ninety-eight per cent. alcohol to soften the celloidin and render it less brittle.

Dr. H. M. Biggs presented a specimen of

PATENT DUCTUS ARTERIOSUS.

The patient was a young man about twenty years of age, who was in Dr. Janeway's service at Bellevue Hospital, under treatment for pulmonary tuberculosis. There was a loud murmur heard in the second intercostal space on the left side, accompanied with a very marked thrill. A diagnosis of pulmonic stenosis was made. The patient had but little dyspnœa and no cyanosis. After death the lesions of chronic venous congestion were found, and there was seen to be a patent ductus arteriosus.

Dr. Biggs also showed a specimen of very pronounced

INTERSTITIAL MYOCARDITIS,

removed from the body of a man sixty years of age, who was under treatment for what was supposed to be asthma. He dropped dead one day while crossing the ward in the hospital. At the autopsy there was found to be advanced disease in the smaller arteries, and very marked myocarditis. There was commencing cardiac dilatation, and at one point the wall of the heart was exceedingly thin. There were also found one or two small calcareous plates on the tricuspid valve.

Dr. Frank Ferguson presented a specimen of

MILIARY ANEURISM

removed from a person who had died of cerebral apoplexy and also one of

PACHYMENINGITIS HÆMORRHAGICA

occurring in a man sixty years of age, who was supposed at the time of his death to be suffering from ordinary apoplexy.

A third specimen was one of

GIANT-CELL SARCOMA OF THE TONGUE.

It was removed by operation from a man aged forty years, who was thought, by some of the physicians who saw him, to be suffering from syphilitic ulceration of the tongue. The lesion began as a small ulcerated surface which gradually increased in depth, its edges becoming thicker, without any noticeable increase in area. Dr. Ferguson, when he first saw the case, made a diagnosis of epithelioma, and removed the growth. The lesion returned, however, with great rapidity. The glands also became enlarged, and upon removal were found to be sarcomatous.

Dr. Ferguson then presented a specimen showing

INTERSTITIAL MYOCARDITIS.

The patient was a boatman, thirty-nine years of age, of good family history, who had always been well up to within

[1] Bauer: Ziemssen, Handb. d. Spec. Path., vol. vi.
[2] Guy's Hospital Reports, vol. xvi., pp. 196–208.
[3] Billard: Diseases of Infants, p. 251. Philadelphia, 1850.

four months of his admission to the hospital. Then he began to suffer somewhat from dyspnœa, and this gradually grew worse until his death, which occurred six days after his entrance into the hospital. At the autopsy there was found to be an aneurism of the aorta which pressed upon the trachea, and the heart muscle was inflamed. The coronary arteries were perfectly normal, but the pneumogastric nerve was pressed upon by the aneurism, and it was to this that the speaker thought the myocarditis was in great measure due.

A fifth specimen was one apparently of

DOUBLE BLADDER.

It was removed from the body of a man who had given no symptoms of bladder trouble during life. The two portions of the bladder were connected by a very small opening. The second bladder was as large as the normal viscus, and was so situated that it made no pressure upon either of the ureters.

DR. BIGGS asked whether there were any stricture of the urethra, for the specimen looked to him like a distended ureter due to retention of urine, and not like an ordinary diverticulum of the bladder.

DR. FERGUSON replied that there was no stricture, and the prostate was not enlarged. He had never seen a case of diverticulum from pressure of the retained urine in which there was such a small opening.

DR. ROOSEVELT did not think that Dr. Ferguson's explanation of the occurrence of myocarditis was needed in the present instance. There was certainly disease of many of the vessels in the body, notwithstanding that the coronary arteries appeared to be normal, and it seemed hardly necessary to invoke the stretching of the pneumogastric nerve in explanation of the phenomenon. The pneumogastric nerve is often found to be pulled upon in cases in which no myocarditis is present. He asked what was the condition of the lungs.

DR. FERGUSON replied that the lungs presented the ordinary appearances seen in these organs in heart disease. In all the cases of aneurism that he had examined he had never seen a single one with interstitial myocarditis. He did not deny that the condition of the aorta in this case might have had something to do with the production of the myocarditis, but as to the coronary arteries, they were perfectly normal.

DR. BIGGS asked if Dr. Ferguson had ever before seen a giant-cell sarcoma arising from the tongue or in any tissue so far removed from bone.

DR. FERGUSON said that he never had. In this case the tumor commenced apparently in the mucous membrane of the tongue. When he first saw it, it was about the size of a bean. The giant cells were not reproduced, and the glands in the neck presented the appearances of a typical spindle-cell sarcoma.

DR. BIGGS said that he had recently seen a tubercular ulcer of the tongue in which there were very large and typical giant cells. In this case the lungs were tuberculous. Such a case as that reported by Dr. Ferguson must be extremely rare.

The Society then went into executive session.

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*Stated Meeting, May* 8, 1889.

WM. P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

DR. H. P. LOOMIS presented a specimen showing

CONGENITAL NARROWING OF THE COLON,

with extensive dilatation above the constricted portion. It was removed from the body of a woman, thirty-four years of age, who died at Bellevue Hospital, after a three weeks' sickness, from acute tubercular phthisis. The condition of the intestine was not suspected during life.

On opening the abdominal cavity the colon, as far as the splenic flexure, was seen to be enormously distended with gas. From a point just below the beginning of the descending portion of the colon to the anus, the intestine was collapsed, and in size not as large as a normal ileum. A careful examination of the abdominal contents showed nothing abnormal; there was no evidence of peritonitis, no bands of connective tissue, no adhesions, no new-growths, and no twisting of the intestine. On raising the small intestines the descending colon was seen to narrow in a funnel-shaped manner until, about four inches below the splenic flexure, it had reached about half its normal size.

Just below the funnel-shaped constriction was found a round, soft, fæcal mass, and scattered throughout the rest of the descending colon and the rectum similar masses were observed. On removing the intestines and making a careful examination, the colon was found perfectly normal, except that the lower portion of the colon and rectum were atrophied. Nothing was found within the intestine except fæces. Dr. Loomis said that he could account for the condition only by considering it congenital. The absence of any apparent cause for the condition, and the fact that the diminution in size was gradual and uniform, seemed to bear out this assumption.

Dr. Loomis also presented a second specimen, showing

A DIVERTICULUM FROM THE LOWER PORTION OF THE ILEUM.

The diverticulum was found at a distance of about twenty inches from the ileo-cæcal valve, and was of about the same diameter as the ileum, and eight inches in length. It presented all the appearances of the normal intestine, as regarded both its mucous membrane and muscular coat. In one case of this kind that the speaker had seen, the patient had died of typhoid fever, and the intestinal lesions of this disease were found in the diverticulum.

DR. J. C. PETERS said that quite a number of cases of intestinal diverticula would be found recorded in the first volume of the "Transactions" of the Society.

THE PRESIDENT said that in making autopsies on children he had often seen the upper portion of the colon enormously distended, while the lower part would be empty and contracted. He had never found any satisfactory explanation of this condition, but the specimen presented by Dr. Loomis reminded him of it. He asked how soon after death the autopsy was made.

DR. PRUDDEN said that in cases in which the lower portion of the colon is thrown out of use by reason of a stricture, there is very apt to be atrophy of the unused part. In such cases, however, there are some symptoms pointing to the condition present.

DR. LOOMIS said that the autopsy was made some twelve to eighteen hours after death. When he first saw the case it looked as though there were a constricting band, but none was found on examining the specimen more closely. The woman was sick in the hospital for three weeks before her death, but she presented no symptoms whatever indicative of any intestinal abnormality.

DR. H. J. BOLDT presented a specimen of

ADENOMA OF THE OVARY.

The patient, a woman in middle life, had suffered from pain about two years. Microscopical examination of the enlarged gland shows it to be in a state of adenomatous degeneration.

A second specimen was one of

FIBRO-MYOMA OF THE UTERUS.

It was impossible to enucleate the tumor, and in consequence the uterus was removed with it by the supra-vaginal method, and intra-peritoneal treatment of the stump was carried out.

GONORRHŒAL SALPINGITIS.

The specimen was removed from a woman who had been infected with gonorrhœa by her husband six months previously. Two months after the beginning of the trouble the left tube was found to be enlarged. No benefit was derived from the treatment employed, and the intense pain incapacitated her from attending to her house-

hold duties. Examination showed the uterus to be embedded in a mass of exudation. On opening the abdomen the tube was enucleated with great difficulty from the perimetric adhesions. The tube was enlarged, but apparently contained no pus, and on cutting into it before removal none escaped. The enlargement seemed to be due to interstitial inflammation.

The tube was, however, removed, because in case of suturing the wound the lumen might be permanently occluded, or, in the event of the sutures giving way, some of the products of gonorrhœal inflammation might escape into the peritoneal cavity. The opposite ovary was also diseased, having on its surface some small cysts; these were excised after Schroeder's method, which would allow the patient to continue in her generative functions. The three cases above reported made a good recovery.

In addition, Dr. Boldt said he desired to mention another case of rupture of a pyo-salpinx, successfully operated upon by his colleague, Dr. Von Ramdohr, a few hours after occurrence of the rupture, which took place during the night, necessitating operation at 3 A.M. His patient also made a good recovery.

### LYMPH NODES AND LYMPH NODULES.

DR. T. M. PRUDDEN referred to the new nomenclature in regard to the so-called lymphatic glands, and said that the Society might do much to promote its general adoption if the individual members would employ it. The so-called lymphatic glands are not glands at all, and should be called lymph nodes. There are other collections of lymph tissue, scattered about in various organs, which differ from the nodes in their small size, and in the fact that they are not distinct one from another and surrounded by a capsule, as are the nodes. These should be called lymph nodules. Then the term gland could be used where it belonged, and much confusion might be avoided. It was also a misnomer to apply the term solitary and agminated follicles to the collections of lymph tissue in the intestine. He hoped that the members of the Society would help along by the influence of their example the general adoption of this correct nomenclature.

The Society then went into executive session.

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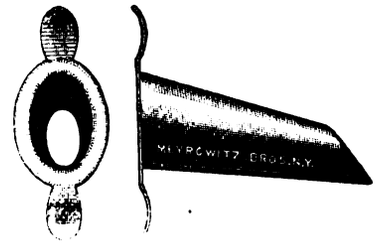
ENUCLEATION OF THE EYEBALL BY A NEW METHOD.—Dr. George M. Hamilton, of Ashland, Pa., writes: "In THE MEDICAL RECORD of May 11, 1889, I notice an article, credited to *The Lancet*, which gives the details of a method of enucleating the eyeball, as practised by Dr. Coppez, of St. John's Hospital, Brussels. It is one of the best methods in use; far simpler, as he claims, than those of Bonnet and Tillaux, both in regard to the instruments used and the manner of after-treatment, but it is by no means a new one. Dr. Biddle, of the State Hospital, Ashland, Pa., has been enucleating by this method for the last two or three years. The article says: 'The patient having been anæsthetized, and the eyelids separated by a speculum, a thread is passed transversely through the cornea by means of a curved needle; the ends of the thread are knotted and the loop held in the left hand. By traction on the loop the eye is drawn slightly forward, and with a curved scissors the conjunctiva is divided close to the corneal edge. The subconjunctival tissue is then torn through, and the tendons of the recti muscles come into view and are divided; next the oblique muscles, and finally the optic nerve.' This is almost identical with the operation performed here as far back as 1886. In order to more fully expose the insertions of the muscles, Dr. Biddle prefers to raise these structures with a blunt hook. This enables him to divide the tendons evenly, and get a better surface for an artificial eye. The danger of having the eye become flaccid, by the escape of contents of anterior chamber, can be reduced to a minimum by using a proportionately small needle and large thread, and introducing the needle at the corneo-sclerotic junction."

## New Instruments.

### A SPECULUM FOR APPLYING CAUSTICS TO THE DEEP STRUCTURES OF THE NASAL CAVITIES.

BY J. HERBERT CLAIBORNE, JR., M.D.,
NEW YORK.

THE accompanying cut represents a nasal speculum which I have had constructed for the purpose of making applications of caustics to the deep structures of the nose.




It will be seen that the instrument is a modification of Simrock's speculum. In front are two flanges for support by the index-finger and thumb when the instrument is inserted. There are two sizes of the instrument. The larger measures one inch and seven-eighths from tip to base. The diameter of the canal at the base is about six-eighths of an inch in height, and four-eighths of an inch in breadth. The edges of the truncated part of the cone are rounded, so that the mucous membrane may not be wounded when the instrument is inserted in the nose. The rounding of the edges is not correctly shown in the cut. The smaller speculum, while of the same length as the larger, just fits within it. In the case of very narrow nasal canals the horizontal diameter of the instrument can be diminished. The instruments are made of bright metal, but one of hard rubber can be used when the actual or galvano-cautery is employed. The manner of introducing it is as follows: The barrel having been greased with vaseline, the point of the nose is raised by the thumb of the disengaged hand; the thumb of the other hand is placed over the aperture at the base of the instrument, while the index and middle are hooked behind the flanges. The instrument is then pushed gently in, till, if need be, the whole barrel is sheathed in the nasal cavity. I find this instrument of peculiar value in making applications to the posterior tips of the inferior turbinated bones. Many surgeons use large aural specula for making applications, whether of fire or chemical caustics, to the deep structures of the nose. The use of these aural specula for the nose is attended by pain, even under the use of cocaine, and personal discomfort experienced from their use has suggested to me the instrument, the cut of which is herewith presented.

The instruments are made by Meyrowitz Brothers.

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PATHOLOGICAL INFERIORITY OF THE LEFT SIDE OF THE HUMAN BODY.—When a unilateral lesion attacks any of the double organs of the human body, the left organ is more frequently affected than the right. Thus, obliterating arteritis attacks the left Sylvian artery, tuberculous infiltration occurs in the left apex, pneumonia in the left lung; calculous nephritis, or cyst of the kidney, attacks the left kidney; ovaritis and ovarian hyperæsthesia are observed in the left ovary; orchitis affects the left testicle, etc. M. Henry Duchenne tries to explain this fact by the greater activity of the right side of the body and the relative passive condition of the left side, which contains the heart. The mechanical activity of the right side determines nutritive activity. The mechanical passivity of the left side produces a kind of physiological mealiness, a pathological predisposition. Dr. Duchenne considers that the law of atavism may also explain the physiological inferiority of the left side of the body, for in ancient times, when hand-to-hand fights were always occurring, the activity of the right side of the body was constantly called into play.—*Medical Recorder.*

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 18, to August 24, 1889.*

BAILY, JOSEPH C., Lieutenant-Colonel and Surgeon, Medical Director Headquarters Department of Texas, San Antonio, Tex. Granted leave of absence for one month. S. O. 54, Headquarters Department of Texas, August 17, 1889.

BROWN, HARNEY E., Major and Surgeon. Died at Jackson Barracks, New Orleans, La., August 20, 1889.

POPE, BENJAMIN F., Major and Surgeon. Granted leave of absence for one month, with permission to apply through Division Headquarters for an extension of two months. Par. 7, S. O. 54, Department of Texas, August 17, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending August 24, 1889.*

SCOFIELD, W. K., Medical Inspector. Detached from the Lancaster.

HIBBETT, C. T., Passed Assistant Surgeon. Detached from the Lancaster.

WHITE, C. H., Medical Inspector. Ordered to the Pensacola.

HESLER, F. A., Passed Assistant Surgeon. Ordered to the Pensacola.

CURTIS, L. W., Passed Assistant Surgeon. Ordered to the New Hampshire.

JONES, W. H., Surgeon. Detached from the Pensacola, and placed on waiting orders.

WEDEKIND, L. VON, Assistant Surgeon. Detached from the New Hampshire, and ordered to the Pensacola.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 24, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 72 | 15 |
| Scarlet fever | 33 | 1 |
| Cerebro-spinal meningitis | 2 | 2 |
| Measles | 16 | 3 |
| Diphtheria | 71 | 12 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

A SPECIMEN ARMY MEDICAL BOARD EXAMINATION.—*Arithmetic.*—Time, forty-five minutes. 1. *a.* Multiply $17\frac{3}{8}$ by 13.37. *b.* Divide $4\frac{1}{8}$ by $2\frac{1}{8}$. 2. Define proportion in arithmetic. 3. If four grammes of morphia cost forty cents, what is the price per apothecaries' ounce and per avoirdupois ounce? 4. A owes B $1,000, to be paid in twelve days, and $500, to be paid in three months. If settled by one payment, when should this be made? 5. What is the cube root of .08769? 6. What is the air space of a ward 30 feet long, 18 feet feet wide, walls 13.5 feet in height, with six round columns 18 inches in diameter? 7. How can you ascertain the width of a river which you are unable to cross? 8. *a.* How is the value of an angle expressed? *b.* Name and illustrate by diagrams the principal forms of triangles. *Geography.*—Time, forty-five minutes. 1. Mention the sources and principal tributaries of the Missouri River. 2. Tell what you know of the physical geography of the peninsula of Florida. 3. What strait separates Asia and North America? What portions of land do the Straits of Magellan separate? 4. Explain the cause of the trade-winds. 5. Where and what is Samoa? 6. What are the principal mountain ranges of Europe, and where is each situated? 7. How is the State of Kentucky bounded? *History and Literature.*—Time, one hour. 1. What was the object of the crusades, and what the date [approximately] of the first? 2. What led to the earlier Arctic expeditions? 3. What were the most important decisive battles of the war of 1861–65, and who commanded the opposing armies? 4. Who were the allies at the battle of Waterloo? 5. What are the principal works of Chaucer, and in what century did he live? 6. Mention two or three of the early Italian authors and their principal works? 7. Who was Hawthorne and what did he write? Who wrote "Evangeline?" What did Prescott write? 8. What city was the scene of Homer's "Iliad," and where was it situated? *Chemistry.*—Time, one hour. 1. State the law of multiple proportions. 2. What is ozone and what are its properties? 3. Give the names and symbols of the non-metallic elements. 4. How is chlorine usually obtained in a free state? 5. What is the composition of phenol, and from what source is it obtained? 6. What is the source of the essential oils, and what are the chemical and physical properties? 7. What are the properties of hydrocyanic acid, and by what tests is it recognized? *Physics.*—Time, one hour. 1. In what direction is the pressure of the atmosphere most exerted? 2. What is the lowest point [Fahrenheit] registered by the mercurial thermometer? 3. Why is the light of a Bunsen burner non-luminous? 4. How do you determine the number of vibrations per second necessary to produce a given musical tone? 5. What do you understand by the emission theory of light, and what by the undulatory theory? 6. Mention and define one or more of the heat units. 7. Explain the construction and uses of the electro-magnet. *Hygiene.*—Time, two hours and a half. 1. What are the advantages and disadvantages of stoves as a means of heating? 2. What means would you adopt to prevent the spread of scarlet fever, and what to prevent the spread of typhoid? Give your reasons in each case. 3. What diseases have been most influenced by the construction of sewers in towns? 4. What is the proportion of $CO^2$ in the atmosphere of a sleeping apartment when a "close" odor from organic matter begins to be perceptible? 5. What disinfectants would you use during an epidemic of cholera, and how would you use them? 6. Mention some easy methods of testing the purity of milk. 7. What is the source of ammonia in impure water, and what is the most reliable test of its presence? 8. What is, under ordinary circumstances, a proper temperature for a sick-room or hospital ward? 9. What is the effect of alcohol on the excretion of pulmonary carbon dioxide? 10. Mention the death-rate of one or more of the principal cities in this country and in Europe. *Anatomy and Physiology.*—Time, three hours and a half. 1. Describe the surgical anatomy of the axillary artery, giving its origin, course, and relations in the different parts of its course: enumerate its branches and state their course and ultimate distribution. 2. State the parts cut through in a circular amputation at the middle of the thigh. 3. Name the arteries establishing the anastomoses around the knee-joint after ligature of the femoral artery. 4. Give the origin, relations, branches, and their final distributions, of the seventh cranial nerve, and state its functions. 5. Name the viscera: 1, covered by peritoneum; 2, partially invested by peritoneum; and 3, state what viscera have no peritoneal investment. *Physiology.*—1. Mention the different kinds of cartilage that exist in the human body; describe the peculiarities of structure that distinguish each variety, and state the purposes which each answers and where found. 2. What are the principal sources and modes of production of animal heat? Mention the circumstances causing variations in tempera-

ture of the human body; and state how the average temperature of the body is maintained and regulated. 3. By what means is the eye adjusted to distinct vision at different distances? 4. What are the functions of the sympathetic nervous system? Name the ganglia composing it, and state the location of each. 5. What is the total amount of the excreta, estimated as carbon and nitrogen, daily eliminated from the human body? and what amount and proportions of dry food are daily required for a healthy adult man of average height and weight? *Materia Medica and Therapeutics.*—Time, two hours and a half. 1. Give the source and composition of nux vomica, mention its preparations and doses of each; describe its physiological actions in (*a*) small, (*b*) full, and (*c*) toxic doses, and state the therapeutical indication for its use. 2. Give the officinal preparations of antimony, with doses of each; state the physiological actions of its principal salt, in (*a*) small, (*b*) larger, and (*c*) tonic doses, and mention the therapeutical indications for its use. 3. What is the active principle of calabar bean? State its physiological actions and mention the therapeutical indications for its use. 4. What is the source and composition of colchicum? Mention its preparations and doses of each; give its physiological actions and state the therapeutical indications for its use. 5. Name the fifteen officinal alkaloids. 6. State the principles upon which counter-irritants act, and mention the therapeutical indications for their use. *Practice and Pathology.*—Time, three hours and a half. 1. Give an account of the etiology and clinical history of diphtheria. 2. What are the symptoms of acute peritonitis? 3. Give the etiology of dilatation of the heart. 4. What are the principal causes of epilepsy? 5. Describe the treatment of typhoid fever. 6. How should you treat a case of delirium tremens? Give prescriptions in full. 7. Give an account of the pathology of tuberculosis. 8. Give an account of the pathology of Asiatic cholera. 9. Define eczema. 10. What are the principal diseases dependent on changes in the spinal cord? *Surgery.*—Time, three hours and a half. 1. What is the theory upon which antiseptic treatment in surgery is based, and how do the agents used modify the processes of inflammation? 2. Compare the effects of the principal agents used for producing general anæsthesia. 3. How is dislocation of the head of the femur on the dorsum ilii usually caused? What are its characteristic signs, and what is the *rationale* of its treatment by manipulation? 4. What are the causes, predisposing and exciting, of erysipelas? What circumstances influence prognosis? How would you treat a severe case? 5. What evidence would lead you to believe that the lung had been wounded in a penetrating wound of thorax, and how would you treat such a case? 6. In a case of gunshot fracture involving the ankle-joint what conditions liable to be present would influence your decision as to operative or conservative treatment? 7. Explain causation of organic stricture of urethra. What are its most frequent situations, and how does situation modify treatment? What diseased conditions may result from untreated urethral stricture? 8. What is the pathology of trachomatous conjunctivitis and its results when unrelieved? How would you treat a case? *Obstetrics and Diseases of Women and Children.*—Time, two hours and a half. 1. What symptoms indicate the existence of placenta prævia, and how would you treat such a complication occurring in labor? 2. What complications may arise in labor from abnormal conditions of the funis? What considerations guide you as to time of tying the funis? 3. Mention the chief conditions with which an ovarian tumor may be confounded and how a diagnosis is to be made. 4. What do you understand by subinvolution of the uterus? What are its causes and what its effects? 5. How would you diagnose a case of spasmodic catarrhal laryngitis from one of membranous laryngitis before expulsion of membrane? How would you treat a case of membranous laryngitis? 6. What is the pathology of essential infantile paralysis? What groups of muscles are most liable to be affected? What permanent results may be produced?

MATERNAL IMPRESSIONS.—Mr. Thomas Latham writes: "Some time in the year 1867 the wife of William Swindells, a farmer, residing near the village of Marple, Cheshire, England, gave birth to a child, she not having had one previously for fifteen years, and being then fifty-three years of age. The child when born had neither fingers nor thumb upon its right hand. Swindells and his wife resided with his brothers and cousins in a small hamlet off the main road. Some time before the birth of the child a stranger passed along the narrow cross-road which intersected the hamlet, and Mrs. S., glancing through the door, observed that the stranger had neither fingers nor thumb upon his right hand. Several of her relations also noticed the man's deformity as he passed the various houses, which were all built closely upon the narrow road. The double event of the birth of the child and its peculiar deformity was the talk of the villagers for miles around. I have myself often seen the child, which was a very healthy one, in my youthful rambles about the neighborhood. I could procure documentary evidence of the above facts in Marple village now if necessary."

THE RABIC COMEDY AT JARVILLE.—The commune of Jarville, in Lorraine, near Nancy, has recently enjoyed a hydrophobia scare of quite respectable proportions. The cause of all the commotion was a little black puppy, about two months old, that belonged to the proprietress of a public-house. The owner became ill, and, finding the puppy rather troublesome, made it over to a friend, who, in turn, transferred it to another, and so it passed through several hands in a short time. One of its owners was a drunken workman, who died from delirium tremens. The report soon spread that the man died from hydrophobia. The original owner, who had suffered for some time from cancer of the stomach, was so alarmed at this report that she took to her bed, and soon after had a final attack of hæmatemesis, to which she succumbed. Rumor assigned hydrophobia as the cause of her death also, and the town went wild. A large number of the inhabitants went to Paris, to the Pasteur Institute, at the expense of the commune, and after being inoculated returned home with minds at rest, and now propose to celebrate their deliverance by a *bal des enragés.* Thus ended what Dr. Linet, who chronicled the event, has called the rabic comedy of Jarville.

A COMPOUND LIQUORICE POWDER.—Mr. J. H. Fisher, in a paper recently read before the Pharmaceutical Society, said that he had some years ago prepared, at the suggestion of a medical practitioner, a compound liquorice powder which was in some respects an improvement on the pharmacopœial powder; it had a pleasanter taste, tart rather than sweet; it was more easily miscible with water, it was less liable to gripe; it was, however, a somewhat more powerful aperient, and had some diuretic and "refrigerant" properties. The formula is as follows: Senna, 2 parts; liquorice powder, 2 parts; fennel, 1 part; sublimed sulphur, 1 part; cream of tartar, 4 parts; sugar, 2 parts.—*British Medical Journal.*

CONSANGUINEOUS MARRIAGES.—A subscriber writes: "A short article in THE MEDICAL RECORD, No. 24, of June 15th, on 'Consanguineous Marriages,' attracted my attention. I would be grateful to you for the opinion of authorities on this subject as to the likelihood of diseased offspring or other injurious results from consanguineous marriages, and hope you will make it convenient to give space to this discussion in your journal."

CHEAP MEDICAL SERVICES.—A medical association has been formed in this city which advertises to furnish medical attendance to its subscribers for forty cents a month, and that all prescriptions for its subscribers will be filled by the leading pharmacists of the city for twenty cents for each prescription. In all probability the services and medicines are not even worth that.

# The Medical Record

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## Original Articles.

### PARTIAL RESECTION OF THE HEAD OF THE FIRST METATARSAL BONE FOR HALLUX VALGUS.

#### A NEW METHOD OF AFTER-TREATMENT.

BY GEORGE R. FOWLER, M.D.,

SURGEON TO THE M. E. HOSPITAL AND TO ST. MARY'S HOSPITAL, BROOKLYN, N. Y.

THE most important deformity of the toes, as well as the most common, is that which is generally known as bunion, or hallux valgus. It consists essentially of an external deviation of the normal line of the great toe, or abducted contracture of the latter. Instead of forming a continuation in a nearly direct line of the first metatarsal bone, the great toe forms more or less of an angle with the latter, and lies in a position to cross the other toes, passing either above or below these, generally the latter.

The head of the metatarsal bone undergoes certain changes, these being due to two causes. First, the displaced phalanx, in its new position, produces increased pressure upon the external aspect of the head of the metatarsal bone, and, to a corresponding degree, lessens the pressure otherwise exerted upon the internal aspect of the same. The effect of this is to retard the growth of the former, and favor the growth of the latter. Second, certain changes, due to periosteal irritation, are often seen to be present. The first named results in a very decided projection of the metatarsal head, and as time goes on this may become more and more abnormally prominent, until at last a well-marked exostosis marks the site of junction of the phalanx with the metatarsal bone. The cartilaginous covering of the head of the metatarsal bone becomes more or less imperfect, and may disappear altogether. This occurs particularly in those cases in which the base of the phalanx becomes entirely displaced, and a new articular surface is formed for it upon the external lateral aspect of the metatarsal bone. Pressure upon the projecting metatarsal head leads to a callosity at that point, and not infrequently a bursa is developed in addition.

The disease is considered as being rather rare in young individuals. Nevertheless, I am convinced that it is not confined by any means to elderly persons. All three of the cases treated in the manner about to be described, occurred in the period of life between twenty and thirty years. No station in life seems to give immunity from the affection. I have not observed the disease more frequently among persons of a rheumatic or gouty diathesis; this is to some extent significant when the fact is taken into account that the latter is first apt to have its earliest and most decided expression in the very articulation under discussion.

I am inclined to attribute the occurrence of this deformity to the wearing of faulty-shaped shoes. Of all the shoes worn, that which is probably the most mischievous is the shape characterized by the pointed toe, with the point on a line with the middle of the foot. Any shoe which does not present a straight line upon its inner border tends to set up the initiatory changes which may result in the full development of this affection. Once the toe is forced from its proper relation with the metatarsal bone, the process of overgrowth of the internal portion of the head of the latter commences; this, conjoined with arrest of development or absorption through pressure upon the external portion of the head, leads to a rapid increase of the deformity. If the shoe be narrow at the site of the base of the toes, in addition to the pointed shape above alluded to, the pressure upon the projecting portion of the articulation will lead to the development of a callosity, and in some instances to a bursa. Inflammatory processes and their sequelæ may supervene in the latter, and it not infrequently happens that patients present themselves to the surgeon having one or more fistulous openings leading down to a suppurating bursal sac at the site of a hallux valgus.

There is another factor in the etiology of this deformity which should not be lost sight of. I refer to the influences exerted by a retraction of the proper extensor of the great toe, combined with the presence of an internal lateral ligament whose structure has been altered by pressure, and whose function of supporting the toe from undue abduction during extreme extension is more or less interfered with. It will be observed that the tendon of the extensor proprius pollicis does not cross the metatarso-phalangeal articulation on the line of the middle of the shaft of the phalanx, but rather toward its outer side. In some instances I have observed it lying in the slight hollow between the first and second of the metatarso-phalangeal joints. As the tendon passes forward from its point of emergence underneath the annular ligament, it is placed quite in the middle line of the dorsal surface of the foot for a part of its course; as it proceeds to its insertion in the last phalanx it lies quite upon the middle line of the shaft of the latter. The effect of this arrangement is to produce a movement of abduction of the toe when the action of the flexor proprius pollicis is brought into play. This abduction is opposed, in a voluntary manner, by the action of the flexor longus pollicis, which, unlike its opposing muscle, passes for almost its entire length along the middle line of the metatarsal bone and the phalanges of the great toe, and the abductor pollicis.[1] When these are not brought into play, the internal lateral ligament of the first metatarso-phalangeal articulation becomes the principal, and perhaps only, means of preventing the point of the great toe from becoming abducted. Should undue pressure, by means of a tight shoe, interfere with the integrity of the internal lateral ligament, and particularly if this be accompanied with an unusual tendency to extension caused by wearing high heels, a greater or less amount of abduction of the great toe, or hallux valgus, will be the result. The greater the deviation of the great toe from its normal line, the more the advantage gained by the extensor tendon is made manifest, until it almost appears as if retraction of this tendon, and this alone, is responsible for the deformity. But that this is a fallacy is proven by the fact that tenotomy of this structure in advanced cases does not result in restoration of the toe to its normal position.

Malgaigne was the first to call attention to the loss of support resulting from an attenuation or weakening of the internal lateral ligament, and considered this, together with muscular retraction or contraction, as being the essential factors in the production of the deform-

[1] It should be borne in mind that, in the surgical sense, this muscle is really an adductor. In the anatomical sense, the middle line of the foot itself is taken as the point from which abduction, and toward which adduction, takes place. Surgeons, however, select the median line of the body itself for the point. Hence the seemingly paradoxical nature of the statement that the abductor pollicis muscle opposes the abduction of the great toe.

ity. Nélaton expressed the opinion that hallux valgus depended upon a contractured condition of the tendon of the extensor proprius pollicis.

From the character and extent of the anatomical changes present in hallux valgus, and the extreme sensitiveness developed in connection therewith, which almost absolutely prohibits the application of orthopedic appliances with the view of restoring the toe to its proper alignment, the treatment of this affection by measures other than operative is exceedingly unsatisfactory. Of the operative means at our command may be mentioned, first, tenotomy of the tendon of the extensor proprius pollicis, with or without section of the external lateral ligament of the joint. These procedures were much practised and recommended by the older surgical writers, but have been practically abandoned of late years, owing to the very unpromising character of the final results obtained. Hüter, of Griefswald, proposed subperiosteal resection of the head of the metatarsal bone, and in this he was followed by the late Professor F. H. Hamilton, and A. Rose, of New York. In a certain number of cases, particularly those in which the joint has been invaded, and in which suppuration and caries are present, this is the only operation practicable. The objection to it is, however, that it shortens the inner margin of the foot unnecessarily, and by removing the inner support of the anterior extremity of the plantar arch, forces the weight of the body in walking upon the heads of the metatarsal bones of the other toes. These soon develop a painful condition, due to the crowding against the sole of the shoe. As before stated, this method of operating should be reserved for cases in which the joint has been invaded as a result of a suppurating bunion, or where caries has attacked the articulation.

A cuneiform osteotomy of the metatarsal bone was suggested and practised by Barker, an English surgeon. It is based upon a similar operation performed for the restoration of the symmetry of the limb in cases of genu-valgum. I have experience with this method in but a single case, and in that the result was far from satisfactory, for reasons to be alluded to further on. I do not think that this operation is destined to become a very popular one among surgeons.

The proposal to perform a partial resection, or to simply remove the overgrowth, or exostosis, of the internal portion of the articular head of the metatarsal bone, made by Reverdin, promises, in proper hands, and with rigid antisepsis and careful after-treatment, to be the operation above all others best calculated to achieve final favorable results. This procedure, however, like those of Barker and Hüter, is open to the objection that, in cases in which they have been heretofore carried out, the incision from which the joint is attacked has been made upon the inner side of the foot, directly opposite to the articulation. As a result of this, strictures are involved in the wound that are the site of a callosity or a bursa, or both, and the chances of failure in obtaining primary union in tissues of this character are very great. This occurred in the only case in which I attempted Barker's operation, and a long, tedious course of healing followed, accompanied by septic complications. Several attempts to follow the proposal of Hüter resulted similarly. Another objection, the validity of which is borne out by my experience in these cases, resides in the fact that, from the hyperæsthesia developed at this portion of the foot during the course of the disease, as well as the exposed location of the cicatrix, the result of these operations, the pressure of a shoe is not tolerated without considerable complaint on the part of the patient. It has been asserted that the pain, under these circumstances, is as great as before the operation.

Bearing these facts in mind, I had almost abandoned operative procedures for the relief of hallux valgus, when Petersen, of Kiel, published his article upon tuberculosis of the first metatarso-phalangeal articulation.[1] This surgeon proposed to attack the joint from its outer aspect, by an incision made between the great and adjoining toe, and extending through the entire thickness of that portion of the foot. By this method he declared the joint to be easily accessible, allowing the operator to thoroughly identify all diseased structures, and permitting of the retention of tissues not actually invaded by the tuberculous process. I at once realized that this incision, applied to the operation of hallux valgus, would do away with the objections which had deterred me from further attempts to effect a cure of this condition by the older methods. The following comprises the history of the first case thus operated upon, together with details of the steps of the operation itself, and a new plan of after-treatment designed to prevent relapse, and at the same time allow the patient to pursue daily duties without the necessity for the application of cumbersome apparatus, and the difficulties inseparable from attempts to maintain the latter in position.

On November 24, 1888, M. C. G——, aged twenty-five years, housewife by occupation, consulted me at the M. E. Hospital for relief of an excessively painful hallux valgus on either foot, of four years' standing. The deformity was very well marked, as shown in Fig. 1, taken from a tracing of the left foot. The patient believing the trouble to be due to rheumatism, had been treated with liniments and rest, and thus occasional temporary relief had been obtained.

Fig. 1.

On the day following her admission I performed the following operation: An incision was made from a point upon the dorsum of the foot, somewhat below the level of the head of the first metatarsal bone, and just outside of that portion of the tendon of the extensor brevis digitorum which goes to the great toe; this was continued to the bottom of the web between the first and great toes. A similar incision was made on the plantar surface of the foot, slightly to the outer side of the line of the tendon of the flexor longus pollicis. The intervening parts were divided through the whole thickness of the sole of the foot, so as to join these two incisions. The great toe was then strongly adducted, and the external lateral ligament divided, opening the joint. After freeing the soft parts from the neck of the first metatarsal bone with the handle of a scalpel, the phalanx was completely displaced. The great toe was adducted still further, until its inner border lay along the inner border of the foot, its point looking directly backward; the head and neck of the first metatarsal bone, together with a large exostosis constituting the "bunion," were thus freely exposed. The latter, together with the inner half of the articular surface of the former, were sawn off by an oblique cut, as shown by the dotted line, Fig. 2. The toe was then replaced in its normal position, and drainage provided for by a tube in the bottom of the gap. The soft parts were sutured; dressings of sublimate gauze and paper wool, and a splint, were applied to retain the toe in a straight position. The other foot was operated upon in the same manner. Union of the wound in the left foot was somewhat delayed by the occurrence of slight suppuration. In three weeks, however, the patient could walk comfortably, but was kept under observation until the end of the sixth week, when she was discharged from the hospital cured.

Fig. 2.

During the patient's sojourn in the hospital it was considered only necessary, in order to maintain the toe in its proper relations, to keep a straight splint of thin wood, well padded, applied to the inner border of each foot, to which the great toe was securely fastened. When, however, she was allowed to walk, and was about to be discharged, it became apparent that some retentive apparatus, less cumbersome in character than the latter, would be

[1] Langenbeck's Archives für Klinische Chirurgie, 1888.

necessary in order to facilitate free locomotion, and at the same time guard against the possibility of a relapse of the hallux valgus.

To accomplish this the following device was resorted to: In the first place, a stocking of rather more than ordinary width was chosen, and a double line of stitching run at the site of the interspace of the great and adjoining toes; by cutting accurately between the lines of stitching, a separate cot or receptacle was provided for the great toe, similar to the thumb portion of a mitten. Fig. 3 shows the stocking so arranged, drawn upon the foot. A shoe was then made, with a separate compartment located upon its inner border, and corresponding to the point at which the great toe should rest. In selecting a last for this shoe, care should be exercised in order to secure the so-called "common-sense" shape, *i.e.*, that which presents a straight inner edge of the foot (Fig. 4). The partition separating the compartment for the great toe from the balance of the front of the shoe, is made of two thicknesses of calfskin, and is secured in place in the following manner: The last is split, as shown in Fig. 5, and the pieces of calfskin from which the partition is to be formed are placed in position in the slot, a sufficient projection being left to pass through a slit in what is to be the inside sole of the shoe, in which latter location it is secured while still upon the last. The shoe and welt are then lasted in the ordinary manner, the reflected upper edges of the partition being stitched to the toe portion of the upper, and the shoe being arranged, in order to facilitate putting it on properly, to lace as low down as the site of the partition, which latter may be only just sufficiently deep to get a firm hold upon the toe, say about one-third the depth of the interdigital space. Fig. 6 shows the shoe, with one side of the upper cut away, in order to show the partition.[1]

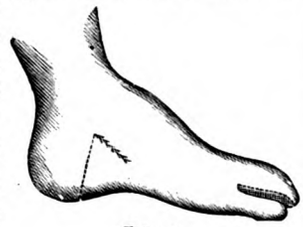

Fig. 3.

Fig. 4.

Fig. 5.

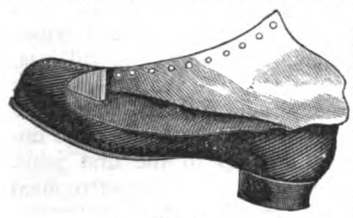

Fig. 6.

It is now nine months since the operation, and the patient declares that they are the most comfortable months she has enjoyed within her recollection. The partitioned shoe and glove-stocking give her not the slightest inconvenience. She walks several miles upon a stretch, whereas, prior to the operation, it was only by the most painful hobbling she was enabled to perform her household duties. Fig. 7 shows the present condition of her foot and the line of union of the wound.

Fig. 7.

The advantages of this method of operating are: 1st. Facility of reaching the articulation and determining the exact pathological changes present, and thereby determining the necessity or otherwise of removing the entire or only a portion of the articular extremity of the metatarsal bone. 2d. The incision is made through healthy structures, thereby, barring some error in the aseptic technique, insuring an uninterrupted and rapid course of healing. 3d. The external lateral ligament is divided, thus eliminating this as a possible hindrance to the reduction of the deformity. 4th. It renders practicable Reverdin's proposal to remove the exostosis when it exists; this latter being the best operation for the purpose of effecting a cure of hallux valgus. Plastic exudation or an organized blood-clot at once fills up the space made by the removal of the exostosis; this is not interfered with in its separative progress by possible infection through a wound from without, and adapts itself to the new location at once. 5th. If contracture of the extensor hallucis exists to an extent sufficient to prevent easy reduction, section of this tendon may be done through the same opening. 6th. It does not interfere with the attachments of the abductor pollicis, thereby favoring relapse from this cause. 7th. The resultant cicatrix is so situated as to be out of harm's way when the patient resumes the use of shoes. Hüter's operation, as well as that of section of the shaft of the metatarsal bone to facilitate reduction, may also be performed through the same wound.

Not among the least of the advantages of Reverdin's proposal to remove the existing exostoses in these cases, is that which relates to the preservation of the entire length of the metatarsal bone. This will be realized when it is remembered that the most important of the three points of support of the arch of the foot is formed by the head of these bones, and its preservation, whenever possible, is of the greatest importance. For this reason I prefer to so treat the deformity, where the conditions, as found when the articulation is exposed, will admit of it. Three cases have been treated by me in this manner, and the uniform success thus far achieved has been most flattering.

In a fourth case, one of the best-marked deformities of this kind I ever saw, and for the relief of which the patient had come to the hospital from a long distance with the expressed determination of having the member amputated, I found, upon exposing the head of the metatarsal bone, that no exostosis existed. A thick callosity and bursa, covering the stretched capsule and attenuated internal lateral ligament, occupied the site of the junction of the phalanx with the metatarsal bone. The articular cartilage was still intact, save here and there it was traversed by narrow, irregular grooves, giving the head of the bone a "worm-eaten" appearance. This is the only case coming under my observation having a distinct rheumatic history, and it partook of the character of an arthritis deformans. It was a question with me whether or not to remove the head of the bone, after Hüter, in this instance; but I finally decided to do so, and the immediate outcome of the case was all that could be desired. Sufficient time has not yet elapsed to enable me to judge of the functional result.

In a subsequent case of this character I would advise that partial section of the shaft of the metatarsal bone, through Petersen's incision, and just above its head, be made; a fracture at this point is then produced. The lower fragment can be placed at such an angle to the upper as to insure a proper alignment of the toe when brought into position. Or Barker's operation of cuneiform osteotomy may be done at this point. For all of these operations I consider the best instrument for making section of the bone, where the parts may be thoroughly cleared, to be a thin-bladed, fine-toothed saw.

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Strychnine in the Alcohol Habit.—Dr. F. W. Allwright calls attention, in *The Lancet* of May 25, 1889, to the value of hypodermic injections of strychnine in dipsomania. He uses a solution of one grain in two hundred drops of water, giving of this five minims by one injection in the twenty-four hours. Hygienic and moral forces are also invoked in the management of his cases. He reports nine cases cured (?) in from ten days to three weeks. The drug causes, he says, a positive loathing for alcoholic drinks.

[1] The partition which is to occupy the interdigital space is unnecessarily deep in the drawing. If too deep, as the foot settles forward in the shoe as the result of wear, the bottom of the space will crowd against it, and produce discomfort. I am indebted to Mr. O'Gorman, the skilful maker of foot-wear, of Court Street, Brooklyn, for the intelligent manner in which my plan of arranging this partitioned shoe has been carried out.

## A CASE OF TRICUSPID STENOSIS, ASSOCIATED WITH AORTIC AND MITRAL LESIONS.

By C. M. HAY, M.D.,

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This rare form of cardiac lesion was found post mortem in a case admitted to my wards in this institution a short time ago, and the history, as far as can be obtained, is as follows:

Mary A. McW——, aged thirty-five, single, and by occupation a silk weaver. She was admitted April 25, 1889, and had been suffering with acute mania for three months prior to admission. These are all the facts I have been able to obtain of her previous history, and nothing could be ascertained of her family history. When admitted patient was much emaciated, unusually small in stature, and weighed about ninety pounds. She was wildly delirious, and her language and actions were typical of acute delirious mania. The condition of the woman made examination difficult, but it was noticed that she was slightly cyanosed all over the body, the coloration being most marked in face and extremities. The conjunctivæ were injected, but otherwise clear. In addition to the cyanosis, the skin was abnormally pigmented, and this was also most noticeable over the face and extremities. Physical examination the following day revealed normal lungs, some enlargement of hepatic and splenic dulness, and marked cardiac murmurs. The urine was scanty and high-colored, and on examination contained great excess of urates, a few red blood corpuscles, no casts, and no appreciable amount of albumen. The cardiac symptoms observed during repeated examinations may be detailed as follows: On inspection thorax was of normal contour. There was diffuse pulsation in the præcordia, extending over the epigastrium across to the right nipple line, and along the cervical vessels. The heart's action was seen to be very irregular. For a time the systole would be strong and transmit very distinct waves in the directions named, while, on account of the extreme emaciation, the heart could almost be outlined. After a minute or more of such action, the heart would suddenly begin to beat so rapidly that its pulsations could not be counted, and the adjacent tissues of the thorax presented an excited tremor. This usually lasted for a longer period of time than the slower and stronger contractions, but this alternation of rhythm was always observed. No distinct apex-beat could be felt, but the strongest impulses occurred in the fifth and sixth intercostal spaces in the parasternal line. There was a very coarse systolic thrill. Cardial dulness was somewhat increased in all directions. A double aortic and a double mitral murmur were heard, but a careful examination was impossible in the case. The murmurs were extremely loud; the systolic portions whistling and rather musical, and heard at any point over the thorax; while the diastolic or presystolic portions were almost equally high-pitched and shrill. The first murmur would frequently be broken by a pause, and when the heart's action became rapid and more irregular the confused mass of shrill notes, mingled with lower-pitched vibrations, defies description. Pulse very small, weak, irregular; at times not felt. The woman continued in acute mania, and the cyanosis grew gradually more marked during the two weeks following her admission. She then failed more rapidly, and on the seventeenth day became jaundiced, with a rise of temperature amounting to 102° F. On the nineteenth day there was marked jaundice, no fever, and the tip of the nose was perfectly black. On the twentieth day the nose became swollen and blebs formed; the cyanosis was much increased, and there was no pulse at either wrist, while the signs of a large præcordial effusion were evident. The existing dyspnœa became extreme, and the patient died on the twenty-first day after admission. At no time was there any œdema of the tissue other than in the nose (which was gangrenous before death); and, other than the pericordial effusion, no dropsy.

Post-mortem. This was performed six hours after death. Body extremely emaciated; nose and part of both cheeks swollen, black, and the cuticle was easily detached. No œdema elsewhere.

*Brain.*—Skull-cap of normal thickness. The dura mater was very adherent to it. There was considerable fluid in the arachnoid spaces, and the pia mater was opaque, thickened, and œdematous, the veins being especially well filled everywhere. On section of the brain substance the puncta vasculosa were unduly prominent, and the gray and white matter appeared equally congested. No other gross lesions were found.

*Lungs.*—The lungs were much congested, posteriorly presenting œdema and hypostasis. On section the lung structure seemed normal. Slight pleural adhesions at both apices. The stomach and intestines, with the uterus and tubes, were normal. The kidneys were enlarged, much congested, but capsule not adherent, and section showing their structure not perceptibly diseased.

*Liver and Spleen.*—The liver and spleen were both enlarged considerably, and both were markedly congested. In addition, the liver was curiously marked with grayish-white patches. The capsule was not adherent, however, over those, and section gave negative results.

*Heart.*—The pericardium was found filled with clear serum, the sac itself being normal. The arch of the aorta and great veins were of normal size and distribution. On opening the right heart white clots were found in the auricle and ventricle. The heart weighed thirteen ounces. The left ventricle was hypertrophied, while the wall of the right ventricle seemed unusually thin, and as the cavity of the ventricle was not enlarged the wall seemed actually atrophied. The muscular substance was normal, as was also the coronary arteries in their position, distribution, and walls. The aortic valves were fused together and formed a hard fibrous ring, into which the tip of the little finger could not be inserted. The united valves formed a cone with its apex toward the aorta. The endocardium was opaque and thickened from the aortic ring to the base of the anterior mitral segment, and also for one inch down over the interventricular septum. At the mitral orifice the valves, with their immediate attachments, had coalesced to form a cone pointing into the ventricle, with a narrow elliptical opening about one and a half centimetre in length by a half centimetre in width, and the little finger could just be inserted into it up to the first joint. The mitral papillary muscles were much hypertrophied and were directly attached to the edges of this opening, while the chordæ tendineæ were obliterated, having apparently united with each other and the valves to form the stenosis described. The left ventricle was not dilated, while the left auricle was much enlarged with thickened walls and dilated cavity.

The tricuspid orifice was markedly stenosed; the first two fingers could just with difficulty be inserted up to the first joint, and on examination only two valves could be found. These two were very much thickened and adherent to one another at their bases, and they were drawn considerably into the right ventricle from contraction of the chordæ tendineæ and papillary muscles. Where the edges of the two apparent valves met upon the side opposite the septum, there was a considerable thickening and fusion of the valve-tissues, and it seemed as if the missing valve had been chiefly involved in the pathological process, and had been nearly obliterated, only leaving a remnant of its tissue at the right juncture of the two remaining valves. But after a very careful examination of the specimen, I confess that I am unable to decide whether this was really so or whether the valve was not congenitally absent, while the two valves seen simply underwent subsequent sclerotic changes. The condition, as seen, resembled very strongly a small mitral orifice, with much thickened valves and contracted ring. The right ventricle, as has been stated, was not dilated, nor were its walls hypertrophied, but, on the contrary, seemed atrophied. The right auricle was very much hypertrophied and dilated,

the cavity being fully twice the normal size. It will be noted that both auricles were hypertrophied and dilated very much, while the ventricular cavities were normal in size, and the wall of the left ventricle was only moderately thickened. The pulmonary orifice, artery, and valves were normal. The aortic intima, for a distance of one inch from the valves, was thickened, but there were no calcareous deposits here or in any of the other lesions.

This case is interesting from the extent and situation of the lesions, the peculiar changes at the tricuspid orifice, and the symptoms observed during life, including the progressive cyanosis for such a long period of time, the acute maniacal mental condition for three and a half months prior to death, and the absence of œdema and dropsy, other than pericardial. The post mortem examination, as stated, revealed considerable venous congestion, and œdema of the brain and its membranes. The great infrequency of disease of the right auriculo-ventricular valves may be seen from the fact that, from 1851 to 1870, the post-mortem records of St. Mary's Hospital, London, gave but fourteen cases, and in all but one case the result was incompetency (Reynold's "System of Medicine," edition 1880, p. 658).

Dr. Bedford Fenwick (*Lancet*, January 22, 1881, p. 137) states that, since 1825, only forty-six cases of tricuspid stenosis have been recorded, and he concludes from a study of them that the greater number were due to changes after birth, while in all of the reported cases the mitral orifice was similarly affected, in nearly all the stenosis being greater at the mitral than at the right auriculo-ventricular orifice.

Dr. C. Hilton Fagge [1] says: "Indeed, although tricuspid stenosis in moderate degree is common enough when mitral stenosis is considerable or extreme, I am not aware that it is ever clinically met with apart from such an association;" while Roberts, "Practice of Medicine," says: "This condition is a mere curiosity, if it ever exists, or might possibly be due to endocarditis during intra-uterine life."

Dr. Hallam has recorded a case [2] in which the tricuspid orifice admitted only the tip of a forefinger.

In the frequently quoted case of Professor Gairdner, in which a diagnosis was made during life, the stenosis was caused by the pressure of a tumor growing from the auricle, and pressing upon the valve-segments.

Bramwell [3] states that acquired (non-congenital) tricuspid stenosis is far more common in females than in males, and also that, when the lesion is limited to the valves and ring, it is probably acquired, the congenital form being usually attended by other congenital defects of the heart and vessels. In this case, in the right heart the lesion was limited to the valves and their immediate attachments, and did not involve the endocardium of the right ventricle or auricle; while in the left ventricle the endocardium around both the aortic and mitral orifices was considerably thickened. The universal coincidence of mitral and tricuspid stenosis in cases of the latter affection is also illustrated in this case, while the superaddition of such extreme aortic narrowing adds much interest to the specimen. It would seem as if the stenosis of the mitral and tricuspid valves in part compensated the aortic lesion and distributed the work of the heart more evenly upon its chambers, and mainly upon the auricles, as shown by the marked hypertrophy and subsequent dilatation as seen post mortem. The fact of actual gangrene occurring in the nose before death certainly exemplifies the very slow failure of circulation, and the gradually increasing venous engorgement and peripheral stasis; while the absence of pulse at the wrist for several days previous is fully accounted for by the condition of the aortic valves, together with the coincident pericardial effusion and rapid failure of cardial power. The very marked cyanosis which the patient exhibited on admission, and which intensified until death, must have been due partly to the tricuspid lesion, which both tended to overfill the general venous circulation, and also prevented a sufficient amount of blood access to the lungs, so that the peripheral arterial capillaries both received an insufficient amount of arterial blood, while the venous capillaries suffered an increasing stasis. The chronicity of this condition is evidenced by the deeply pigmented condition of the skin.

[1] Reynold's System of Medicine, p. 729.
[2] Edinburgh Medical Journal, 1864, vol. x., p. 271.
[3] Diseases of the Heart, p. 540.

## A SUCCESSFUL AND CONVENIENT METHOD OF TREATING PUERPERAL ECLAMPSIA.

By RICHARD COLE NEWTON, M.D.,
LATE CAPTAIN AND ASSISTANT SURGEON, U. S. A.

In this paper no discussion of the still unsettled question of the etiology of puerperal convulsions will be entered upon. I wish merely to discuss the principal methods of treatment and to lay before the profession a plan of treatment which has so far in this neighborhood served its purpose well.

It can scarcely be denied that eclampsia has hitherto constituted a part of the odia medicaiia, and that its treatment has not reflected much glory upon our art. Notwithstanding our utmost care in examining the urine of pregnant women, and our improved prophylaxis, a number of cases will occur in any obstetric practice. Moreover, either from accident or design, the urine of women about to lie in is not always sent to the doctor for examination. Add to these the small number of cases (percentage not yet determined) in which eclampsia occurs without ascertainable change in the urine, and the cases in which the patient may be attended by a midwife or other ignorant person, and in which a competent physician is only called when the woman is already in convulsions, and it is evident that anyone of us must hold himself in momentary readiness to treat eclampsia; with the assurance that his failure to save the patient will be widely known and pretty generally condemned, whereas his success will redound to his individual credit and will increase the prestige of our art.

Let us briefly review the more recent literature of our subject. That the disease is a frequent and dangerous one is well known. Professor Parvin, in a recent paper,[1] says that ninety-four deaths from eclampsia in about one hundred thousand labor cases were reported to the Philadelphia Board of Health in five years. He assumes that these ninety-four fatal cases were a third of the cases of eclampsia that occurred in Philadelphia in the period mentioned, which would give approximately one case of convulsions to every three hundred and thirty-three deliveries, and the high death-rate of thirty-three and one third per centum. Professor Thomas, in his lectures in my student days, gave the proportion of eclamptic cases as one to every four hundred and eighty-five pregnancies and the death-rate at from twenty-five to thirty per centum. The generally accepted figures are in close accord with Professor Thomas', *i.e.*, one case of eclampsia to every five hundred pregnancies and a mortality rate of thirty per centum. The number of cases of albuminuria in pregnancy seems, according to recent observers, to be much greater than was formerly supposed. However, with this aspect of the subject we will not at this time concern ourselves.

Now, from twenty-five to thirty per cent. of death is a high mortality rate from any acute disease; higher, probably, than that of any other acute disease that afflicts the good people of this latitude and longitude. It is not to be wondered at that childbed convulsions are intensely dreaded by the profession and the laity.

Much has been written on this important subject and considerable progress has been made in unravelling the mysteries which surround the still somewhat obscure questions of its etiology and therapy.

As to the principal modes of treatment, I think we

[1] Hirst's American System of Obstetrics, vol. ii., p. 75.

may justly say that they are four in number: 1, Chloroform to control the spasms, often combined with other medication, as, *e.g.*, drastic carthartics; 2, morphine, hypodermatically; 3, venesection; and, 4, the induction of labor. Probably a fifth, viz., the administration of veratrum viride, should be added. Of course, there are many and various ways of treating eclampsia, but I think that a large majority of physicians in these days place their chief reliance upon one of the means mentioned in our list. There has always seemed to be a disposition to adopt one method to quiet the spasms, and to supplement its action by another, to alter or eliminate the morbific material from the system. If chloroform is given, cathartics, sudorifics, or diuretics seem to follow. If the patient be bled, she seems to be also subjected to hot baths or purging. Doubtless, if labor is to be brought on, the spasms are meanwhile controlled by chloroform, etc. It is this dual indication which, I believe (with our present light), it is necessary to follow out if we wish to successfully cope with eclampsia.

A few years ago pilocarpine was brought forward as the best and most scientific drug with which to combat this disease. I understand that it is now recommended to the students in the Harvard University Medical School as decidedly our best means of treatment. Still, a number of cases in which jaborandi or its alkaloid have failed have been reported. And as the drug so often acts uncertainly in general medicine it seems doubtful whether it will ever be looked upon with general favor in eclampsia.

Professor Parvin [1] speaks of chloral with some favor; and there seems little doubt that the fearless exhibition of this drug has, in a number of reported cases, given excellent results. Professor Byford praises colchicum in eclampsia.[2] Oxygen has been tried and spoken well of.[3] Of course, galvanism has not been left without a champion.[4]

Not to take up too much space with the consideration of these lesser known remedies, let us confine our remarks to the five principal methods of treatment mentioned above.

First, chloroform is no doubt the most widely known of the remedies in eclampsia. A short list of the distinguished men who have advocated the drug would comprise some of the brightest names in medicine. It would, therefore, be out of place for me to cry down this valuable and potent agent; neither is it necessary here to go into a detailed discussion of its merits. An unsurmountable objection to its use is the amount of time which the physician must give to one patient if he uses chloroform for eclampsia. Professor Thomas used to say that, to be effectual, the remedy must be kept up for from twenty-four to forty-eight hours. As no conscientious physician would like to intrust the administration of chloroform to a nurse, he must, in case he gives it in puerperal convulsions, remain at the bedside for one or two whole days and nights, and maybe longer.

In may cases this must be impracticable, and it can never be convenient to oneself nor just to one's other patients. Had the treatment by chloroform been generally satisfactory, so many substitutes for it would not have been brought forward.

As to morphine in eclampsia, two or three cases which have occurred in this neighborhood tend to confirm the common impression of its danger. Certain promising young matrons, although fully brought under the influence of this drug, lost their lives; and two of our practitioners have told me that, although once strongly in favor of morphine in the convulsions of childbed, they have now abandoned its use. In the literature of the subject many diverse opinions prevail. Professor Byford [5] strongly condemns it. Rosenthal [6] says that the opiate treatment gives good results, especially after delivery. Professor Thomas would seem to agree with Rosenthal. A writer in the *Pacific Medical and Surgical Journal* recommends one and one-half grain of morphine hypodermatically, and says that he is convinced that twice the quantity might be administered once. Almost the latest reference [1] to the treatment of this disease, that has met my eye, states that Veit, after using other methods, has been led to rely upon morphine. His initial dose is three-fifths of a grain hypodermatically, followed by half as much when required. He adds: "It is generally necessary to give from one and one-fifth to three grains in from four to seven hours. . . . For the renal complications hot baths followed by packs are best; pilocarpine favors pulmonary œdema.

Theoretically these large doses of morphine must do harm by locking up the secretions. It would seem that such therapy is on a par with the conduct of a person who, after discovering a fire on his premises, should take great care to exclude the firemen by locking his door and throwing away the key. This view receives strength from the fact that after delivery the secretions (markedly that of the kidneys) rapidly re-establish themselves, and that morphine can then be borne. However, in Galobin's tables [2] only eight per cent. of the women seized with convulsions post-partum died; so that any treatment would have to be very bad to show a high mortality rate in such cases.

Furthermore, the doses of morphine recommended in eclampsia are, to say the least, startling to a quiet mind.

The question of bleeding has received a great deal of attention. Formerly it seems to have been nearly universally practised, and it has powerful advocates to-day. Dr. Michener and others published [3] a brochure four or five years ago, containing forty-four cases of eclampsia, all that they could collect that had occurred in their county (Chester County, Pa.). They unreservedly advocated venesection. In the Medical and Chirurgical Faculty of Maryland [4] several speakers were enthusiastic in favor of bleeding in these cases.

A Dr. Darvon, of New York State,[5] stated in a medical meeting that he and his father had successfully bled their eclamptic patients for ninety-two years. Professor Thomas advised it in a few sthenic subjects with great vascular tension and plethora. Professor Parvin [6] speaks more favorably of venesection in selected cases than of any other one method. Professor Thomas,[7] however, modified his advocacy of this procedure by stating that phlebotomy is a method inferior to chloroform, more unreliable, and dangerous. I presume that he still holds this view. Professor C. Braun [8] gave up venesection years ago, and quotes other authorities who have done likewise. At best, with our modern ideas, bleeding is revolting and frightful to the patient if conscious, and certainly to the friends. It removes some of the vital fluid from a patient who, if she comes out of her spasms, has probably a long convalescence before her. Neither is it always efficacious; a number of failures having been reported in cases of convulsions treated by bleeding. It might tide the patient over some uncontrollable spasms, especially where there seemed to be sufficient vascular tension to threaten apoplexy. Although this latter contingency is mentioned by Trousseau, its occurrence must be quite rare.

The induction of premature labor as a means of curing or preventing eclampsia seems to be growing in favor among the profession in this country. At a meeting of the American Association of Obstetricians and Gynecologists held in Washington in September, 1888, the consensus of opinion seemed to be wellnigh unanimous in favor of this method of treatment.

Professor Thomas used to say that for the purposes

[1] Op. cit. [2] Theory and Practice of Obstetrics, p. 448.
[3] THE MEDICAL RECORD, August 8, 1885.
[4] Ibid., August 9, 1879. [5] Op. cit.
[6] Diseases of the Nervous System.

[1] American Journal of the Medical Sciences, January, 1889, p. 103.
[2] Hirst's American System of Obstetrics.
[3] Reviewed in THE MEDICAL RECORD, November 22, 1884.
[4] THE MEDICAL RECORD, May 15, 1886.
[5] Ibid., November 22, 1884. [6] Op. cit.
[7] Lectures on Obstetrics.
[8] Braun: On Puerperal Convulsions.

of treatment he divided his pregnant patients who showed albumen in the urine into three classes—slight, medium, and grave. In the latter class he always advised that labor be brought on at the eighth month of gestation. A number of cases are reported, some successful and others not. One writer [1] saved four out of six women in whom he produced premature labor.

The induction of premature labor, or of abortion, is always a grave undertaking. Perhaps we are apt to lose sight of its gravity. Nature ever resents this interference with her laws. She will, and frequently does, terminate a gestation whenever such a course seems to be indicated for the welfare of the mother, as, for example, in uterine displacements, fevers, cholera, etc, and also where the fœtus if viable would not probably ever develop into a healthy child, as, for example, in syphilis, scurvy, Bright's disease, etc. The well-known comparative immunity of pregnant and lying-in women from epidemic and endemic diseases, their almost miraculous recoveries from post-partum hemorrhages, complicated labors, etc., all point to the peculiar and fostering care with which nature regards her pregnant daughters. Just in proportion as extaordinary safeguards are thrown about those women who fulfil the law of their nature and do their share toward propagating the race, just so far does nature resent our interference with gestation. It is no light matter to bring on labor under any circumstances. Witness the high mortality rates in criminal abortions, no matter how skilfully these comparatively simple operations may be performed. Witness the broken health and lifetime of suffering which so often follow. Any clown can bring on a miscarriage, but no human agency can repair the damage he will probably inflict upon the unfortunate woman. Professor Mc Lane used to tell us that he would rather any one of his patients would have two babies at term than abort once. Professor Braun [2] quaintly observes that he has frequently seen premature labor brought on for hyperemesis fatal, but he has never seen hyperemesis fatal.

My friend Dr. Love, of Montclair, tried bleeding in his eclamptic cases. His success was but indifferent. He then tried the induction of labor, and declares that the latter method was worse than the former, since by bleeding he did save some cases, whereas when he brought on labor he lost nearly every case that he had.

Leaving the consideration of the veratrum viride treatment for a moment, I think that I have indicated that every means so far generally employed to combat this terrific disorder has frequently failed. So far as I know, it is not claimed that the mortality rate for any large number of cases has been kept below twenty-five per centum by any mode of treatment. Dr. Breus [3] reports twenty-two cases treated with hot baths, with a mortality of only two (ten per cent.). Dr. C. Braun reports sixteen cases successfully treated with chloroform and acids. Nitro-glycerine has proved a valuable adjuvant in a few reported cases. Now, as the mortality has not apparently been greatly altered by the various (and sometimes totally different) modes of treatment in vogue, it seems fair to assume that a large percentage of cases would recover without treatment. Galobin [4] gives some interesting figures, as follows:

> Average mortality at Guy's Charity, 25 per cent.
> Of those attacked before labor, 50 per cent. perished.
> Of those attacked during labor, 25 per cent. perished.
> Of those attacked after labor, 8 per cent. perished.

Professor Braun remarks, in his excellent monograph, that of those seized with convulsions before labor few recovered.

Charpentier [5] gives some figures showing the mortality as influenced by the number of seizures:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Of 45 | women | who | had | from 1 to 10 | convulsions, | 25 | per cent. | died. |
| " 31 | " | " | " | 10 to 20 | " | 33 | " | " |
| " 24 | " | " | " | 21 to 50 | " | 50 | " | " |

[1] The Medical Record, April 1, 1872.
[2] Epitome of Braithwaite's Retrospect, June. 1882, p. 255.
[3] The Medical Record, August 15, 1885.
[4] American System of Obstetrics. [5] Ibid.

There would appear to be a wide and only partially cultivated field of study before us in puerperal convulsions. However, let us hasten on and take up our last division of the treatment, viz., that by veratrum viride.

This drug has enjoyed a checkered career since it was so boldly thrust upon the profession by Dr. Norwood in 1850. Good authorities seem to be still disputing about its value in pneumonia. In some other diseases, as, *e.g.*, diarrhœa and dysentery, its value does not seem to have been as yet well studied. Professor Fordyce Barker is said to have suggested its use in eclampsia forty years ago. Since that day it has never seemed to lack a champion as our best treatment in this disease. Various Brooklyn physicians have spoken highly of it, and I fancy that it is gradually gaining ground. I notice that it is favorably mentioned in the last "Year Book of Treatment," and in Hirst's "American System of Obstetrics" (just published). However, the profession at large do not yet seem to trust this remedy, which is now suffering unmerited obloquy—the natural result of undue praise.

Twenty-eight years ago Dr. Cutler, of Jersey City, stated in the New Jersey Academy of Medicine that he had been in practice twenty-five years, and that during that time he had seen on an average eight cases of puerperal convulsions a year, in his own practice and in consultation, and that he had never lost a case, and that in treating this complaint he relied upon veratrum viride. Dr. Love was present and heard these remarks. Shortly afterward the late Dr. Isaac Nichols, of Newark, called the doctor's attention to benzoic acid, and suggested its use in the albuminuria of pregnancy. My friend put the hints dropped by these older men (at that time eminent in this State) together, and concluded to treat his next case of eclampsia with veratrum viride and benzoic acid. This was many years ago, and Dr. Love has seen no reason to alter his treatment. He has had in all twenty-three cases and he reports twenty-three recoveries.

In the stirring up of dry bones and scattering of ancient records which moving one's office after many years' occupancy causes, the notes of these individual cases were lost or mislaid. But a dozen or more of the women are now residing in this neighborhood, and can be seen and interviewed. Case No. 23 has occurred since this writing was begun. She is a primipara, twenty-three years of age. Her urine was highly albuminuric on April 30th. In spite of treatment, by May 15th her water had diminished to less than five ounces per diem. It resembled pea-soup in appearance, and when boiled with nitric acid it promptly solidified. She then fell into convulsions and had six in twenty-four hours. During this time she remained totally unconscious. As it was difficult to make her swallow, and as the veratrum viride exhibited per orem was vomited, eight minims of Norwood's tincture were given hypodermatically, which also produced emesis. This amount was, however, injected under the skin every hour until five or six doses had been given. The benzoic acid was also given every four hours. I saw this patient afterward myself, and made frequent examinations of the urine. Microscopically, tube-casts and renal epithelium were noted. About three weeks after the convulsions labor came on of itself and a child was born, which lived a month and died in convulsions. The mother made a good recovery.

Dr. Love says that, in his experience, within twenty-one days after the first spasm labor will come on, and that the fœtus is generally dead.

Only two children in his twenty-three cases survived. In the case just given he tried nitro-glycerine as a help to eliminate the materies morbi, but had to give it up on account of the headache it caused.

His plan of treatment has been as follows: Give three drops of Norwood's tincture (a freshly prepared portion) and repeat in an hour; then two drops every hour or two until the patient experiences a cord-like feeling in the neck. If the nurse be not sufficiently intelligent or conscientious, the physician must give the veratrum viride

himself. The benzoic acid is given in the following prescription, which is taken from Ellis' "Formulary," and is No. 120 in that collection of recipes:

℞. Acidi benzoici ..... ʒ ij.
Potass. bicarb..... ..... ℥ ss.
Spts. ether nit..... fl. ℥ j.
Spts. mendereri..... fl. ℥ ij.
Syr. limonis.....q. s. ad fl. ʒ vj.
M. Sig.: ℥ ss. q. 4 hrs.

This must be mixed with some care, but any competent pharmacist can do it. It forms a rather unpleasant dose.

All I claim for Dr. Love is a happy and partly original combination of well-known remedies. No one else has, so far as I know, reported twenty-three successful cases without a break. Professor Braun's sixteen cases, treated with chloroform and acids, is the next best showing that I have found. Dr. Staples, of Dubuque,[1] reported uniform success for nine years with veratrum viride and aconite hypodermatically. Number of recoveries not stated.

Under Dr. Love's treatment the infants can scarcely be said to flourish. Under any treatment it appears that one-half of them die; and of those born alive, as Tyler Smith points out, a number will die of convulsions (Dr. Smith calls them uræmic convulsions). If, then, there is more probability that the child will die than live, we would hardly be justified in abandoning a course of treatment promising the best chance for the mother's life because some other may give a higher per centum of living children. Löhlin's, Winkel's, and Hecker's reported cases[2] show that from seventy-seven to eighty-five per cent. of the women were primiparæ; and all the best authorities agree in saying that a woman will probably not suffer from eclampsia twice. Therefore, according to our view, it is inexpedient and even reprehensible to weigh the child's chances for life against the mother's when we know that the latter, if she come out of her spasms, will probably live to bear healthy children.

This plan of treatment is the result of nearly a lifetime of thought and observation. In Dr. Love's hands it has not failed once in many years. It is convenient and easy to administer, and absolutely harmless in competent hands. It is freely offered to the profession with the hope that it will be found as successful in other hands as it has been in those of my esteemed friend, and that it may prove another trusty weapon in our armamentarium.

MONTCLAIR, N. J., August 6, 1889.

## THE TREATMENT OF PNEUMONIA BY TEPID BATHS.[3]

BY GEORGE N. KREIDER, A.B., M.D.,

SPRINGFIELD, ILL.

DURING the past few years much has been written about the alarming mortality of pneumonia. Men whose wide experience has extended over a long period of years affirm that the death-rate is much higher under the present accepted modes of treatment than it was forty years ago, when the pathology of the disease was almost unknown. It would hardly seem that our therapeutics of pneumonia is commensurate with our knowledge of its etiology and pathology. Some endeavor to explain this increased death-rate by supposing that a change in the character of the disease has occurred in the last half-century, while others claim that the statistics are made more unfavorable by the fact that a larger number of poorly nourished and dissipated persons are now treated in the large city hospitals where these comparisons have been made. Whatever may be the explanation, it remains true that the mortality-rate is extremely, and I believe unnecessarily, high. The high mortality-rate of pneumonia and typhoid fever in America is the medical opprobrium of our country. Dr. Osler says death in this disease is most frequently due to high temperature and heart failure, and it is against these very grave symptoms that our present treatment is least effective. The same statement might be made, and with equal truth, concerning typhoid fever. The newer antipyretics antipyrin and antifebrin have their place, and if used with proper precautions may render material assistance; but, used in a routine and indiscriminate manner, they are capable of doing more harm than good. They may enable us to reduce the height of the temperature, but are not lessening to any great extent the mortality of this disease. Too frequently they depress the heart's action and disturb the stomach, and thus cause complications of the gravest nature by preventing the patients' taking a sufficient quantity of nourishment, and by impeding the circulation of blood through the lungs. After careful consideration, and influenced by the successful use of the ice-coil in my practice, in the treatment of typhoid and puerperal fever, I came to the conclusion some time since that a change in my method of treating pneumonia was desirable. Relying upon the statements of well-known German authorities, I decided to make a fair and impartial trial of tepid baths in grave cases. The employment of these means is so contrary to all our American teachings and traditions that it is only in the last six months that I have gained sufficient courage to employ them. So great is the fear of cold in the minds of both the laity and the profession that it is doubtful whether I would have been permitted to make the experiment earlier in my professional career. For this reason the number of cases which I am able to relate in support of my views is not as great as would be desirable. However, I believe that a careful clinical study of a few cases is quite as valuable in proving principles as tables embracing an indefinite number can be. Modern investigation has certainly proven that micro-organisms of some kind, and not colds, are the immediate cause of this disease, and in the light of this discovery all mistaken prejudice against baths and cold applications must fall to the ground. Pneumonia is essentially a fever, which should be treated, as far as its effects on the respiration, temperature, heart, and skin are concerned, like any other fever. I do not pretend to say that every case of pneumonia should be treated by baths. Strümpell wisely says it is disadvantageous, if not injurious, to give a patient baths if the disease is progressing favorably, for almost every bath has some disagreeable features which should be avoided if possible. All these disagreeable features vanish in a bad case. The possibility of the necessity for baths should be had in mind on assuming charge of every case of pneumonia, and arrangements made accordingly. A portable bath-tub should be in storage from which it can be taken at a moment's notice. The dealer of whom I procure the tubs rents them out at a reasonable figure, and is easy of access day and night. A portable tub can be placed by the bedside and the patient lowered into it without the least physical exertion on his part. The patient should be placed on a single bedstead, with low head- and foot-pieces, for convenience in handling sponges and towels; dry sheets and blankets should be on hand in abundance for use during and after the bath. After the tub is once properly filled very little more disturbance is necessary, since the water will retain its heat for a long time and one or two buckets of hot water will bring it to the required temperature. The reasons for resorting to the treatment should be fully explained to the relatives, and their hearty co-operation secured. I have thus far found little opposition where this treatment was proposed, and this was usually volunteered by some officious neighbor whose medical attendant "never did such a thing." The physician himself must superintend and assist in giving the baths. Especially is this the case in children, whose expressions of fear will often influence the parents to the detriment of the treatment.

I have used baths in the treatment of six cases. All have not been successful, but in none were any bad symp-

[1] THE MEDICAL RECORD, February 21, 1880.
[2] American System of Obstetrics.
[3] A paper read at the Thirty-ninth Annual Meeting of the Illinois State Medical Society.

toms caused by the bath; on the contrary, in every case the patient came out of the tub refreshed and improved, for the time at least. The first case treated was Mrs. F. W. T——, aged thirty-five, seen with Dr. Dresser in the second week of puerperal fever, and with strength reduced by that disease. She developed at this time catarrhal pneumonia of the right lung, beginning with a severe chill, pain in the side, and elevation of temperature, pulse, and respiration. She was treated with antipyretics, stimulants, and expectorants for six days, without very apparent benefit. Matters had seemingly reached a critical point. The pulse and temperature remained elevated, and little or no material was raised from the lung. There was coma vigil, muttering delirium, and picking at the bedclothes. I finally urged, as a last resort, the employment of a bath, to which my colleague finally consented. To give it we were obliged to carry the patient to another room and immerse her in a stationary tub, which was only accessible from one side. This increased the labor of the treatment a great deal, and minimized its benefits. The temperature of the baths was 98° F.; temperature of the patient, 103° F. The bath was given at 9 P.M., and, the condition of the patient being alarming, I remained all night an anxious watcher at her bedside. My concern may be better imagined than described. I had, with many mental misgivings, urged a procedure which, until then, I believe I may say, was unknown in the community, and severe condemnation certainly awaited its failure. During the night some encouraging symptoms appeared. She was bathed twice the next day, each time with some slight benefit, but it was not until a somewhat more prolonged bath was given, on the following morning, that the rusty-colored sputa began to come away in any quantity. Four baths in all were given. As showing the condition of the patient and the value of baths, I may relate that her husband, an unusually well-posted clergyman, had cabled the patient's sister in London the news of her impending death. The patient has fully recovered, a result which I think would scarcely have been possible without the baths. One interesting feature of this case is the comparatively low range of the temperature. It never went above 103.5° F. The fever was not entirely controlled by the baths, as it went to as high a point after we had discontinued them as before; but their effect in loosening the exudation and stimulating expectoration and the heart's action was so marked as to be beyond question.

The second instance in which the baths were employed was in the case of W. K——, aged twenty-three, seen with Dr. Walter Ryan, in the fifth day of the disease. The temperature was nearly 105° F.; respirations, 64; and pulse, 144. While on a drunken spree he had been stricken with a severe type of the disease, and had been treated with antipyretics and stimulants *secundum artem* by Dr. Ryan. It was our opinion that death was inevitable in a few hours, but, influenced by the brilliant success in my first case, it was decided to give him the benefit of the baths. They failed to rescue him, but not only did they do no harm, but, we believe, sustained life thirty hours longer than would have been possible without them.

The next case to which I successfully applied the treatment by baths was Willie G——, aged ten. On the third day of an attack of measles he developed pneumonia, and it was only then that I was called to attend him. I found his respirations 84 per minute, pulse above 160, blueness of the lips, and temperature 104.8° F. I lost no time, after informing the family of the gravity of the case, in preparing to give him a bath. In default of a regular bath-tub, and as I deemed an immediate bath imperative, we made use of a large-sized wash-tub in which the boy seated himself, while myself and assistants poured the water over him. He came out of the tub improved. Six hours later, finding alarming symptoms again present, I put him in a second bath. This completed the good effects of the first and started him on the highway to recovery. Eighteen hours after the first bath his respirations were 40; pulse, 126; and temperature, 102° F. Rapid convalescence followed.

The fourth case is that of Mr. W. S——, aged twenty-five, whom I was called to see at a coal-mining station ten miles from the city. Finding pneumonia of the right lung imminent, he was brought to the city by special train and placed in St. John's Hospital, where he soon developed the disease in its most severe type. The temperature reached the unusual figure of 106.2° F., and this despite the employment of antipyretics and the ice-coil. When it reached the highest point the unconscious patient was placed in a bath at a temperature of 95° F., where he was kept for ten minutes. This procedure was repeated in four hours. These two baths were sufficient to break the force of the disease, and steady and rapid improvement was noted from the time of their use. Expectoration, which had ceased with the appearance of the bad symptoms, became again abundant, consciousness was regained, and the heart's action improved. This patient weighed two hundred and eighteen pounds, but the labor of handling him was much less than was anticipated. The small number of baths required was the more remarkable because of his development of adipose.

The fifth case is that of M. J——, aged seven, whom I saw early in the disease, when there was probably little more than congestion present. The symptoms of pain in the side, distressing cough, and elevation of temperature and pulse were great enough to call for active treatment. Instead of giving the usual antipyretics I gave two tepid baths, and was thus enabled to change this picture to one of quietude and freedom from pain, and a rapid convalescence.

The sixth case was that of L. D——, aged sixty-nine, in which, unfortunately, the bath treatment was not given until after severe symptoms of heart-failure had developed. The effect of the bath was good for the time being, and although the patient did not recover, the bath had nothing whatever to do with the fatal result, which was due to heart-failure. My only regret is that the treatment was not instituted earlier in the case.

The results of my trial of this treatment, it will be seen, give a mortality rate of thirty-three per cent. This is not a very encouraging argument in its favor, but statistics in so small a number of cases should not be used in that way. As a result of my clinical study of the use of baths, I am prepared to indorse the statement of their good effects made by gentlemen high in authority and with a large experience in their employment. My two patients who died were already *in extremis*, and two of the cases of recovery were calculated to give as severe a test of the treatment as one is likely to encounter. The treatment means work on the part of the medical attendant, and he who prefers to write a prescription to using some physical exertion had better remain an advocate of antipyretic medication.

The conclusions I make in closing this very imperfect presentation of the benefits of baths in pneumonia are: 1. They should only be given in those cases which are not progressing favorably. 2. In severe cases nothing is calculated to give so much relief to all bad symptoms. They shorten the duration of the disease and of convalescence, and reduce the mortality. Liebermeister says it has been reduced in his hands from twenty-five to ten per cent. 3. Rules for selecting cases and administering baths cannot be rigidly given. The thermometer is not always the guide for their administration. Difficulty of respiration and lack of secretion should lead to their employment, regardless of the height of the mercury. 4. The temperature of the bath should be one hundred degrees or less, depending on the severity of the case and the condition of the patient. Baths of extremely low temperature I have not found necessary as yet, but should not hesitate to employ them if occasion should require. 5. Stimulants should be given just before entering and on coming out of the bath-tub. The patient should not exert himself in the least. 6. The physician should himself superintend and aid in giving the bath. This rule could only be broken by having trained nurses who are competent to meet the emergencies which might arise.

## RECENT MEDICO-LEGAL CASES.

By HENRY H. RILEY, Esq.,

NEW YORK.

Some little time before this paragraph will be read, the city of New York will have witnessed the unusual circumstance of the execution at one time by hanging of four murderers.

These executions will take place after the long delays and appeals permitted by the law of the State, so that most persons have forgotten the crimes for which they will suffer the extreme penalty of the law. Should there be any bungling in the performance of the sad duty devolving upon the sheriff of the county, a new interest will be given to the Electrical Execution law, which some people are so earnestly trying to have set aside on the grounds that it permits a "cruel and unusual punishment," forbidden by the constitution of the State.

It is difficult to see, however, why electricity should be more cruel in its working than hanging, as sometimes carried through. In a double execution occurring only a few weeks since at Louisville, the papers give the following horrible account of the mode of death: "Smart turned round and probably died instantly, but Dilger slipped the noose, the rope catching him over the chin at the lower teeth. He was seemingly unhurt, and was drawn up by the rope until his shoulders came through the trap, when the deputies took him by the arms and pulled him upon the scaffold. A new rope was brought into service, and when the noose was adjusted Dilger asked, 'What's the matter?' When he was told he said, 'This shows I should not die.' He placed himself upon the trap the second time by making two hops. The drop was again sprung at 6.39; he was strangled to death."

Considering the fact that there are so many hangings where the condemned persons are slowly and painfully strangled to death, their necks not being broken by the fall, it is very difficult to see how the advocates of this mode of execution in place of electricity have much of an advantage. It is true that no one can tell absolutely how electricity will work until it has been tried, and the trial, to give reliable information, must be upon a human being. As to the probabilities of its action experts differ greatly, as already shown in the testimony given before the referee in the Kemmler case; but there seems to be no uncertainty about the opinion of the greatest electrician of the age, Edison. His testimony was as follows:

"Can an electric current be applied by artificial means, in such a manner as to produce death in every case?"

"Yes."

"Instantly?"

"Yes."

"Painlessly?"

"Yes."

We have little fear that the murderer Kemmler will escape through any sentimental fear that electricity will not do its work, but the condition of the law in New York State is such that, if the court should decide that the use of electricity would be a "cruel and unusual" mode of punishment, he cannot be punished at all.

The knowledge of this probably makes his eloquent counsel the more active in his efforts to have electrical executions abandoned.

In North Carolina an action was recently brought against the city of Asheville because of its neglect in furnishing proper shelter for persons confined in its jails, but the court held there was no liability. It seemed that proper fires and bedclothing were not furnished the prisoners during the winter weather, and the decision was that the city was not liable if it had furnished the supplies required by law. It seemed to be the inference that the jailers might be personally responsible for the neglect in caring for the prisoners.

The court said: "We may safely say that neither cities nor towns can be required, as a general rule, to answer in damages for injuries to prisoners caused by the neglect of their respective jailers, policemen, or guards who may have immediate charge and custody of them, and of which the governing officials of the corporation had no notice. We think that where window-glass in the window of a police prison has been broken, and the bedclothing furnished for its inmates has been destroyed, but the governing officers of the town are not shown to have had actual notice of the breaking or destruction, or to have been negligent in omitting to provide for such oversight of the prison, as would naturally be expected to give them timely information of its condition, there is not such a failure in discharging the duties of construction or superintendence as to subject the corporation to liability."

The State of Massachusetts has a strict law in regard to Sabbath observance, and the courts construe it rigidly. In a recent instance it would seem that a person sold cigars, and the question was whether these could be brought under the designation of "drugs and medicines," which the law permits in Massachusetts, as elsewhere, to be sold on Sunday. The court listened patiently to the argument, and then, in a long and convincing opinion, pronounced the dictum that cigars were not medicines, and that, therefore, the sale was unlawful on Sunday.

The Supreme Court of Montana has just decided that the railroads cannot be compelled to pay for animals killed by their trains, unless they are negligent, and in absence of a law requiring the companies to fence the tracks, and a law to this effect has been declared unconstitutional. The court holds that such legislation is on the line of that attempted in Illinois, where a law was declared unconstitutional which compelled railroads to pay the burial expenses of all persons dying on, or killed by, their trains. In this instance the court said that death might be caused absolutely without any fault or negligence of the company, and it was unjust to put a liability where such was the case.

The California Supreme Court has declared that cities in that State are not liable for persons injured by falling into open sewers kept insufficiently guarded, where the liability for such injuries is not expressly stated by statute. One of the judges, who dissented from this opinion, said that, if the law required the municipal authorities to keep the streets in safe condition, this carried with it a liability for injuries, even though no express provision was made by the law for compensation. The latter view is probably the prevailing one in most of the States.

The Georgia Supreme Court holds that it is within the discretion of the trial court to require the plaintiff, suing for a physical injury alleged to be permanent, to submit to an examination by competent physicians to ascertain the nature, extent, and probable duration of the injury, so as to afford means of proving the same at the trial.

The judge cited with approbation the statement in "Thompson's Trials," as follows: "In modern trials of civil actions for physical injuries, the question has frequently arisen whether the court has power to order an inspection of the body of the plaintiff or person injured, for the purpose of ascertaining the nature and extent of the injuries. Some of the courts, carrying in their minds no higher conception of a judicial trial than the conception of a combat in which each of the gladiators is permitted, within certain limits, to deceive and trick the antagonist and the umpire, have decided the right of the defendant to have an order for such inspection.

"Other courts, taking the more enlightened view that the object of a judicial trial is to enable the State to establish and enforce justice between party and party, have held that it is within the power of the trial-court, in the exercise of a sound discretion in proper cases, upon an application seasonably made, under proper safeguards designed to preserve the rights of both parties, to order such an inspection, and to compel the plaintiff or injured person to submit to it.

"Another court has held that where a plaintiff in such an action alleges that his injuries are of a permanent character, the defendant is entitled, as a matter of right,

to have the opinion of a surgeon based upon a personal examination, unless there is already an abundance of expert evidence; in which case the court, in its discretion, may refuse to order an examination. Another court has ruled that the trial-court may require the plaintiff in such an action to submit to a medical examination, and dismiss his action if he refuses to comply with the order.

"This conclusion may be placed upon the higher ground that, when a person appeals to the sovereign for justice he impliedly consents to the doing of justice to the other party, and impliedly agrees in advance to make any disclosure which is necessary to be made in order that justice may be done." It will readily occur to the reader that the main ground of objection to the rule would be the danger to which delicate and modest females might be exposed, and in regard to this the judges say: "There would be no danger, we think, in this country, of an examination being ordered needlessly, or where an improper shock to modesty or feelings of delicacy would be likely. We decide simply that the power exists, and that in each case it is to be exercised or not according to the sound discretion of the presiding judge."

## Clinical Department.

### ARTIFICIAL ANÆSTHESIA DURING SLEEP.

By THEODORE POTTER, A.M., M.D.,
INDIANAPOLIS.

I WAS called at 9 P.M. on July 2d to see a case of injury to the arm. The patient was a boy, aged eight, rather delicate in appearance, timid, and of slight build, but whose general health is good. The injury had occurred nearly two hours previously, and the swelling and extreme pain prevented a thorough examination without an anæsthetic, which being given, fracture of the lower end of the humerus was found, the internal epicondyle being broken off.

Seven weeks before this the boy had received a severe scalp-wound, during the suturing of which chloroform was given. This was a short time after a meal; he vomited freely during and after the use of the anæsthetic, and was sick for some hours. He was therefore now much frightened over, and dreaded, the idea of having to take "that nasty stuff again."

Adjusting the arm in a comfortable position I left him for about half an hour. When I returned with Dr. J. W. Marsee, of this city, he was sound asleep.

At the solicitation of his family I made the attempt of giving the anæsthetic without waking him. The experiperiment was completely successful. The patient passed directly from sleep into the artificial anæsthesia, the only signs of irritation being a slight holding of the breath, and a few side-to-side movements of the head just before complete anæsthesia was reached.

The dressing lasted twenty minutes; the anæsthetic was then withdrawn, the patient passing into natural, quiet sleep, without the slightest sign of disturbance. He did not vomit during or after the chloroform, and experienced no perceptible ill effects from it. Three and one-half hours afterward, at 2 A.M., he awoke, not having any knowledge of what had occurred, and expressed surprise that his arm had been dressed.

The anæsthetic used was chloroform. It was given on a small, thin handkerchief, gradually at first, and with very free admixture of air, near an open window, and was as gradually withdrawn. The quantity used was exactly three and one-half drachms. The supervention of complete anæsthesia was quite sharply marked by the change to regular, deep, easy breathing, and full relaxation following slight rigidity of the muscles of the face and chest.

A plaster dressing was applied, completely immobilizing the arm; there was thus the least possible irritation remaining after the withdrawal of the chloroform.

Though the production of artificial anæsthesia during sleep is certainly a nice thing, if it can be successfully carried out under such circumstances, the question is of interest chiefly from a medico-legal stand-point.

The subject being under discussion in the local medical society a few years ago, it was tested a number of times by Dr. W. N. Wishard, then Superintendent of the Indianapolis City Hospital, the subjects being adults. In every instance it failed; and failure has been the result in the large majority of instances in which it has been tried. How rarely, then, must it be successful in the hands of excited, bungling, incompetent persons who attempt it for criminal purposes?

A considerable number of successful cases is, however, now on record; and it is generally agreed that it is more likely to succeed with children than with adults. The two cases reported by Dr. Cluness [1] were in children. Dolbeau, in his report on the "Employment of Chloroform in Relation to the Perpetration of Crime," [2] concludes that children are less difficult to manage than adults. Wood [3] makes the same statement.

In all the cases which the writer has been able to find, chloroform was the agent used.

The subject is well summarized in Lyman's work on "Artificial Anæsthesia and Anæsthetics." [4] In none of the cases related in this volume, nor in those which I have been able to collect from other sources, with possibly one exception, is it clearly stated whether or not the patient continued to sleep after the chloroform was stopped. In many it is stated or intimated that this condition did not follow. Moreover, it is to be noted that in many of the reported cases (all of those of Dolbeau) the subjects were not suffering from any special irritation, such as an injury, which would probably render the experiment more difficult.

The evidence in most of the supposed cases of the criminal use of chloroform, such as occasionally come before the courts, or more frequently float through the newspapers, is so incomplete or doubtful as to be of little value. This case, therefore, seems of interest as one in which not only was artificial anæsthesia produced during sleep, but was followed uninterruptedly by sleep lasting a number of hours, and this in a person suffering from a painful injury.

### A CASE OF FECAL FISTULA—OPERATION—RECOVERY.

By H. W. BOONE, M.D.,
SURGEON TO ST. LUKE'S HOSPITAL, SHANGHAI, CHINA; PRESIDENT OF THE MEDICAL MISSIONARY ASSOCIATION OF CHINA.

THIS patient comes in with the following history, furnished by the doctor who first saw the case, November 1, 1888: "Nineteen days ago was seized with pain in inguinal region, which he said soon became general over the whole abdomen. After his seizure there was for some days more or less stercoraceous vomiting. On the sixteenth day he says an oblong tumor, which had been observed in the inguinal region, ulcerated through, and discharged much fæces, pus, and fluid. After he was seen an enema was given, which resulted in the passage of a moderate amount of very firm fæces. Some days after this the bowels began to act spontaneously but irregularly. For two months past he has passed one-half of his fæces by anus, and one-half through the opening in inguinal region."

Admitted to St. Luke's Hospital, March 23, 1889, a healthy-looking, fairly well-nourished lad of nineteen. He has a small opening over the region of the cæcum, from which fairly well-formed fæces are passed. There are the marks of two sinuses, one running toward the scrotum and one toward the median line, which are fully healed up. The opening of the fistula is too small to admit of the passage of the little finger, and there appears to be a

[1] Pacific Medical and Surgical Journal, June, 1874.
[2] Annales d'Hygiène, 1874.
[3] Materia Medica, 8th edition.
[4] Wood's Library, September, 1881.

cavity between the skin and bowel which seems at times to fill up, and then, after a free evacuation, to become smaller. A probe, slightly curved, passes freely upward and appears to be in a large cavity; it can also be passed directly downward for two inches, but not in any other direction. The patient was carefully prepared for the operation by bathing, the evacuation of the bowels, appropriate food, and the cleansing and disinfection of the parts. On March 27th, at 10.45 A.M., chloroform was administered by Dr. Reid, and with the kind assistance of Drs. Jamieson and Deas, and Surgeon Kellard of H.M.S. Mutine, I proceeded to operate. A free incision was made over the site of the lesion, and the parts were dissected up, thus opening into a cavity which connected with the cæcum. A ragged irregular wound was found two inches above the lower end of the cæcum, nearly transverse in direction, and one and three-quarters inch in length; the mucous membrane was ragged and everted. On insertion the finger passed up readily in the direction of the ascending colon, also downward for nearly two inches. With one finger in the gut, I then carefully freed the bowel in this vicinity from some cicatricial attachments, removed some shreds of areolar tissue, and then thoroughly cleansed the parts with sponges wrung out of a warm two per cent. solution of carbolic acid. I then put in a double row of "Lembert sutures" of fine silk, and closed the opening, passing two stitches at either end of the line through healthy tissues beyond the angles of the wound. The edges of the wound having been thus inverted, and being in close apposition, the parts were cleansed, a short india-rubber drain-tube was inserted beneath the skin, and the wound of incision was united with interrupted sutures of catgut. Borated cotton was applied over the line of incision, then Gamgee pads; a wide bandage was applied round the body, with a spica in the groin. The patient bore the operation well. He was put to bed and allowed nothing but one teaspoonful of weak hot tea from time to time. On the evening of the day of the operation his temperature was 99.3° F.; on the next evening it was normal, and continued so afterward. Slight chloroform nausea for twenty-four hours. At twenty-five hours after the operation, began the injection of beef-juice per rectum. After one day he objected so strongly to the use of enemata, and to taking Valentine's meat-juice by the mouth, that I ordered three ounces of equal parts of milk and rice-water to be given him, in spoonful doses, during the day. Fourth day: Slight stain on dressings, which were removed; they were stained with pink serum, wound quite healthy, no pain or tenderness; fresh dressing applied; rice-water and milk, eight ounces. Sixth day: Enema, followed by a small passage containing fæces; meat broth in addition to milk and rice. Eighth day: Change dressings; wound healed except track of drain-tube, which was removed. Ninth day: Minced meat and boiled fish with the rice and milk. One-half ounce of salts in morning was followed by two natural stools in the afternoon. Eleventh day: Two natural motions without the use of any aperient. After this time a regular and natural stool every day. On the morning of the thirteenth day removed the third dressing. Wound entirely healed; a small pad of absorbent cotton and a bandage were applied to keep his fingers from the groin. On the seventeenth day allowed him to get out of bed and sit in an arm-chair. April 20th: Returned to his ordinary native diet, and walked about the hospital yard. April 22d, twenty-six days after the operation, he is perfectly well, and is discharged at his own request.

*Remarks.*—This young man had twice attempted suicide, and there is no doubt that his parents, with true oriental disregard for the sanctity of human life, were quite willing to allow him to make away with himself. His complete recovery seemed to them but little short of a miracle. The man came to me in very good condition, for his physician had kept the parts cleansed, healed up the sinuses which had burrowed in the surrounding region, and had put the parts into a healthy condition; while by careful attention to the general health of the patient he had put him in a good way to recover from the results of an operation.

This is an example of a case where the operation was an easy one, and there were no untoward complications. My former cases were of fistulæ, in which the small intestine was involved, and where the two ends of the gut connected with the artificial anus were resected and the cut ends joined together by sutures, a much more dangerous operation for the patient.

This case is reported as showing that it is not every case of fecal fistula in which the operation for cure is specially dangerous; and that, while the modern plan of cutting down and operating directly upon the injured portion of bowel is the best, in a certain proportion of cases it is not attended with very great danger to the life of the patient.

In this case the fecal fistula seems to have resulted from some obstruction of the bowel, for we learn that he had severe pain in the inguinal region, and after a few days vomiting of stercoraceous matters. A fecal abscess was then formed, which later on effected an opening through the integument. There was ulceration of the cæcum, but nothing to show whether the appendix was or was not involved in the inflammatory process. As the appendix was completely shut off from the site of the injury, it was deemed best to confine attention to the local lesion and not to go exploring for undiscovered troubles. The bowel opened indirectly to the surface; the skin-wound was quite small, and the fistulous track was irregular; there was a cavity containing pus and fæces between the wall of the abdomen and the bowel; it is a variety known as the sterco-purulent fistula. The method employed—of putting in a double row of Lembert sutures, and of inserting a couple of stitches beyond each angle of the wound—seems to me the one which offers the greatest safety. Two rows of stitches give greater security from yielding or leakage than one; the extra stitches at the corners of the wound made sure that no openings were left at those points. The very fine silk used would seem to be the most reliable material for the sutures.

The wound never gave any trouble at all, and in less than thirteen days it was entirely healed up. With our modern style of operating and dressing, this is the result which we have a right to look for. Since giving up the use of the spray, and then the general use of the irrigator in all cases, I find more and more that perfect cleanliness and dry dressings give me the best results, and that operations for laparotomy, the radical cure of hernia (so called), and other operations go on to a cure with but little if any untoward complications.

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## CASE OF IMPERFORATE ANUS.

By WILLIAM PERRIN NICOLSON, M.D.,

ATLANTA, GA.

On the morning of the 31st of July, 1889, I was called hurriedly to see the child of Mr. Henry Denham, farmer, with the statement that the child could not have an action from the bowels on account of the absence of the anus. Upon arrival I elicited the following history of the case: The child was born on the 29th of July, and was delivered by a midwife in the neighborhood. According to the usual custom a dose of castor-oil was administered, and as this had no effect the dose was repeated during the day. Failing the next morning to secure an action, a third dose was administered. At this point a physician was called in and made an examination, with the result of detecting the true nature of the trouble. I was called, and saw the child about noon of the second day, and about forty-eight hours after birth. There were evidences of distress in the face, and I was told that he had been crying in great agony for some time before.

Upon examination the anus appeared normal, but when the buttocks were separated there was revealed a complete closure. There was even the appearance of a small ex-

ternal pile near the margin of the anus. The crying of the child upon my efforts of examination caused the distended rectum to bulge out, showing that the gut was not far away.

The patient being held in the lap of the assistant, an incision was made from the tip of the coccyx across the anus, and soon after passing through the skin there was a gush of gas, and then such a stream of meconium as passed away I should never have believed possible in so small a child. It continued for more than ten minutes to ooze away in a constant, though somewhat intermitting stream. Finally the opening was made large enough to let my little finger pass into the rectum, and the patient was left with instructions to the nurse to introduce the finger twice daily for some time. I have since learned that he is doing well. Cases of imperforate anus are sufficiently rare to give them considerable interest, and this belongs to the rarest class.

## Progress of Medical Science.

Mechanical Treatment of Gleet and Sexual Asthenia.—Dr. Szadek, of Kïev, has published a paper on the treatment of gleet by the introduction into the urethra of Beniqué's curved tin bougies anointed with either Unna's salve (℞. Olei cacao, 100 grammes; ceræ flavæ, 2.0 to 5.0; argenti nitrici, 1.0; balsami Peruviani, 2.0. M. f. ung.) or Sperling's (℞. Lanolini, 20.0; ceræ albæ, 4.0; argenti nitrici, 0.1 to 0.3. M. f. ung.). In nervous or very sensitive subjects, in whom the insertion of the bougies gives rise to pain and erection, a from three to five per cent. solution of cocaine should be previously injected into the urethra. During the first sitting the bougie is left *in situ* not longer than for three to five minutes, but later on the duration of the *séances* is gradually increased up to fifteen or even twenty minutes. The sittings are repeated every two or three days, except in very inveterate or atonic cases, in which a daily introduction of the instrument is advisable. As to the size of the latter, the author uses a set from No. 18 to No. 30 Charrière, commencing with the least irritating bougies and gradually ascending to even larger ones. In relatively recent and mild cases he usually employs Nos. 20, 21, and 22, while in more severe and more protracted ones (which, by the way, constitute a vast majority) he, following Professor Otis, passes by degrees to No. 28, or even No. 30. In patients with narrowed meatus, he enlarges the latter by means of a bistoury or scissors. In such cases, where the lesions are situated in the posterior division of the urethra, Dr. Szadek introduces his bougies even as far backward as the bladder. According to his experience, the deep insertion, when practised with due caution and carefulness, never causes any untoward accessary effects (such as vesical or urethral irritation, etc.). In all, 30 cases of neglected gleet were treated after the mechanical method. In 3 of them, referring to unusually severe or old morbid changes about the urethra, complicated with obstinate vesical affection, the results were far from being satisfactory; but in the remaining 27 the treatment proved highly successful. In 18 of the 27 complete cure ensued (and that in 11 from the bougies alone, and in 7 from the bougies and astringent means). In 9 a considerable improvement was obtained; in fact, the only symptom left was a scanty mucoid discharge recurring from time to time. In relatively recent or mild cases, from four to six sittings proved to be sufficient for effecting a cure. In a majority of cases, however, a one to two months' course was necessary for the purpose, while in some unusually severe cases, where a relapse took place, another similar course was to be repeated some months later. The same method (in the shape of the insertion of Nos. 20 to 25) gave also most gratifying results in eight cases of sexual asthenia with spermatorrhœa and (incomplete) sexual impotence. Dr. Szadek arrives at the following general conclusions: 1. The method under consideration proves very useful (*a*) in many cases of neurasthenic irritation of the urethral mucous membrane; (*b*) in many cases of inveterate gleet, especially in those characterized by infiltration and other morbid changes in the mucous membrane and submucous tissues. 2. It proves beneficial, further, in inveterate gleet of an atonic origin, or in that kept up by local nervous disturbances. 3. In some cases, however, the mechanical treatment must be supplemented by a subsequent course of local astringent remedies. 4. The method is free from any untoward accessary effects, provided it is practised with due precautions (including antiseptics).—*The Provincial Medical Journal*, June 1, 1889.

Irrigation of the Puerperal Uterus.—Dr. Haynes (*American Journal of Obstetrics*) concludes a discussion of this subject thus: 1. Where intra-uterine irrigation is used in the absence of sepsis, use no sublimate, but plain hot water, or salt and water. 2. If the urine is albuminous and scanty, use no mercury. 3. If the urine is slightly albuminous and copious, or if the patient is profoundly anæmic, do not use more than a pint of a solution of 1 : 8,000. 4. Always use tartaric acid and sublimate tablets or powders; dissolve thoroughly in a small quantity of water and mix carefully with a definite quantity of hot water in a pitcher, from which pour into the irrigator. 5. Always use fountain-syringe, and for the uterus a double tube, so as to insure the return of the solution. If for any reason the fluid fails to run out as fast as it flows in (if not through the reflex tube, by way of the channels at its sides), shut off the flow. The irrigator should not be raised more than three feet. 6. Precede by copious irrigation with hot water to wash out blood, etc., which may form with sublimate adhesive albuminous compounds, which may in time be absorbed. Follow by a quart or two of hot water to insure the evacuation of all the sublimate solution. 7. For the uterus use a solution not stronger than 1 : 8,000, and not more than a quart daily. 8. For the vagina use a solution not stronger than 1 : 4,000, and not more than a quart twice daily. Irrigation used in the above way is, we believe, a practice almost devoid of danger. We have made more than one hundred and seventy-five irrigations with the double tube and fountain syringe, with no untoward results except in two cases an unimportant rise of temperature, and in one a severe but harmless chill, and even these slight accidents we feel certain might have been avoided by greater care. Yet irrigation of the puerperal uterus will always be a procedure requiring great care and judgment, and some skill. Enough has been said to make it evident that our opinion coincides with that of Credé and Fehling, that both vaginal and uterine irrigation are attended with undoubted dangers, and should never be employed in the puerperal state unless to meet definite indications.

Fissures of the Tongue.—These obstinate and painful lesions are said to be speedily cured by applying the following mixture five or six times daily:

℞. Papayotine..... 2 parts.
Glycerin, aquæ.....ää 10 "
M.

Posture in the Treatment of Tympanites.—Mr. Oxley, writing to *The Lancet* concerning a case of obstinate tympanites which had resisted all drug treatment, says that instant relief was obtained by placing the patient in the knee-elbow position. He advises a trial of this before resorting to puncture of the abdomen.

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Salol in Scarlet Fever.—Dr. G. J. Holmes, of New Britain, Conn., in a recent *brochure* on scariet fever, speaks very favorably of the action of salol, and states his belief that the persistent and careful administration of salol in proper doses, according to the age and general condition of the patient, will, in many cases, reduce the temperature, eliminate the poison, and cut short the disease.

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## A POSSIBLE CAUSE OF POST-PARTUM SHOCK.

THE subject of sudden collapse of the mother, shortly after labor has come to an apparently successful end, is one of so great difficulty and importance that any thoughtful suggestion as to its cause or cure is welcomed by the practitioner. In the Edinburgh *Medical Journal*, July, 1889, Dr. Ferguson, of Edinburgh, relates three cases—one in his own practice—in which, he thinks, the extreme and sudden prostration which occurred was caused by pressure upon the ovary during the application of Credé's method of expression of the placenta. In the first case the mother, a woman of very nervous temperament, was delivered after an easy, rapid labor, without chloroform or forceps, of her fourth child. As the doctor had not arrived, the nurse, an unusually competent woman, thoroughly acquainted with Credé's method, grasped the uterus and firmly compressed it for half an hour, until the doctor arrived. This kneading of the uterus gave the patient great pain. The uterus contracted well without hemorrhage. Soon after the expulsion of the placenta the mother suddenly became unconscious, with imperceptible pulse, and remained so for three hours. She went through the death-struggles, and looked like a dying person. The pulse then gradually returned, and in half an hour the patient could talk and take stimulants. She recovered without further trouble.

In the second patient, a healthy young primipara, the labor had been normal, except that from rigidity of the external parts inertia threatened and low forceps were used. After waiting a little while for the placenta, the doctor put her half under anæsthesia, and, failing to express by Crede's method, which caused great pain, extracted the placenta by hand. Only a slight hemorrhage occurred. Immediately after the extraction the patient became cold, pale, pulseless, and gasping. She rallied under injections of ether, etc., sank again, and finally returned gradually to a normal condition, passing safely through childbed.

The third case occurred in a healthy young primipara, of nervous temperament. Labor proceeded naturally, but at the end of the second stage a little chloroform was given, and forceps were used on account of fatigue of the patient. After delivery she awoke partially from the anæsthesia, and complained loudly of great pain when the uterus was grasped, begging to be let alone. The pain made her sick and faint, and was worse each time the uterus was compressed, becoming finally unbearable. As the placenta was passing from the vulva the patient became suddenly unconscious, after a period of restlessness and tossing. The uterus was firmly contracted, and there was no hemorrhage from cervix or vulva. There was no perceptible pulse, no breathing, and the patient seemed at the point of death. She remained in this condition three hours, then gradually recovered.

In these three cases there had been no great difficulty in labor, no excessive hemorrhage, no severe operation. Eclampsia and heart disease were easily eliminated. In each there were symptoms of syncope and shock; unconsciousness; feeble, rapid, irregular pulse, sometimes imperceptible at the wrist; dilated pupils; shallow, irregular breathing; cold, clammy sweat; vacant, torpid face, and absolute insensibility to pain. In eight to twelve hours they had completely recovered, feeling only a little exhausted, and having some tenderness of the hypogastrium. The patients after recovery had little or no recollection of what had occurred during the attack. In two of the cases the subsequent progress was normal; in the third there was persistent sleeplessness, leading to a prolonged attack of melancholia, from which, however, the patient recovered.

Dr. Ferguson thinks there can be no doubt that the shock was, in each case, caused by squeezing one or both of the enlarged, tender ovaries between the compressing hand and the hard, contracted uterus. This accounts both for the exquisite pain felt during compression and for the subsequent serious collapse. He supports this view by the observation that, during abdominal section for removal of the ovaries and tubes, if the ovaries are roughly handled or torn before the ligature has been tied, the patient, though anæsthetized, becomes generally affected by shock, exhibiting dilated pupils, coldness of extremities, clammy sweat, fluttering pulse, and irregular, shallow respiration. These symptoms disappear after the ligature is tied.

He goes on to show by quotations, and from personal observation, that in a considerable proportion of cases the uterus, during the third stage and after delivery, lies obliquely in the pelvis, so that the ovaries, which cling closely to its sides, lie the one in front of the transverse line, the other behind it. The fingers which grasp the uterus from behind may, in certain of these cases, very easily squeeze the ovary which lies posteriorly. In our attempts to grasp the uterus, also, we may, unintentionally, twist it on its axis so as to bring the ovary where it may be squeezed. When the patient lies on the left side the hand naturally grasps the uterus in such a way that the thumb in front is a little to the right, and the fingers behind are a little to the left of the median line of the pelvis, and as the uterus is generally rotated to the right it is grasped antero-posteriorly and the ovaries are avoided. When the patient lies on the back this is not the case, the rotated uterus being grasped obliquely and the ovaries endangered. In most cases the compression required is slight, and a woman of strong nerves will bear it, even when the ovary is involved, without inconvenience. But where pain is experienced during compression, or where considerable force is required, the physician should take care to find how the uterus lies before he applies pressure. Lateral compression of the post-partum uterus should never

be used except in cases requiring irrigation of its cavity, when the Fallopian tubes should, if possible, be very gently compressed, in order to prevent regurgitation of the fluid through them into the peritoneal cavity.

Many of the attacks of syncope which occur immediately after the third stage, or during it, and which are ascribed to the very slight hemorrhage which has normally occurred, ought to be put to the account of that energetic and forcible kneading of the uterus and its adherent ovaries which an over-zealous accoucheur thinks necessary ot prevent a more or less visionary post-partum hemorrhage.

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MEDICAL JOURNALS AND THE NAMES THEY GO BY.

We chronicled not long ago the birth of a medical journal in St. Joseph, Mo., to which its sponsors had given the rather extensive name of *The Western Medical and Surgical Reporter*, and we are pained to learn that the youngster has not met with as cordial a welcome from all its contemporaries as it received from us. The cause of the cold, or we might say hot, reception that it has encountered is to be found in the fact that its title resembles closely that of several existing journals. *The Medical and Surgical Reporter* administers to it a not over-gentle reproof, and *The Western Medical Reporter* has cut short the vacation of its fighting editor, and called him home to sharpen his knife and clean his gun preparatory to a busy season. The Cleveland journal with a similar name has not yet been heard from, but he has been there before, and probably will not care to say anything that will tend to reopen old sores.

There is certainly no necessity for this copying of titles, and it betrays a lamentable want of originality on the part of the originators of these journals that they should be forced to bestow borrowed names on their progeny. It is also at times confusing, and may lead to the giving of credit for good articles to the wrong journal. Nevertheless, we see no great crime in this appropriation of titles, for no harm can thereby result to the older journals after whom the younger ones are named. It is an evidence of appreciation and sincere flattery, so why take offence at it? The Medical Record has several namesakes, but it wishes them all well, and congratulates them upon the enjoyment of so aristocratic an appellation.

For the sake of peace, however, and in order to promote a fraternal feeling among our contemporaries, we would advise our young friend to change his name, and start life with a designation that will be all and entirely his own. We might, indeed, suggest a few names from which he could select the one that pleased him most. In the first place, the names of instruments furnish an inexhaustible source from which appropriate titles may be drawn. The *Lancet* and the *Scalpel* have been taken, but enough remain to offer a rich choice. We have the bistoury, the chain-saw, the forceps, the hypodermic syringe, the speculum, the catheter, and a host of others. Then there are other names relating more particularly to the avowed objects of the journal, such, for example, as the Occidental Boomer, the Western College Puff, the Missouri Doctors' Own, the Foe of the Atlantic, and many others. It would be allowable also to imitate, though not to copy, the title of some already existing periodical. Thus, instead of the name that it has so rashly chosen, it might be called the Relator of Medical and Chirurgical Facts and Fancies, or, in imitation of the *Medical Waif*, the St. Joe Foundling.

We extend to our young contemporary, whatever name he may be known by, the assurance of our most cordial consideration.

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TREATMENT OF HYDRARTHROSIS OF THE KNEE BY SUBCUTANEOUS RUPTURE.

One of the most troublesome of all forms of articular dropsy to treat satisfactorily is chronic serous effusion of the knee. Why this is so is not so easy to explain—possibly it is because the effusion in this joint is apt to be greater than elsewhere, so that the lymphatics are unable to receive it with sufficient rapidity. However this may be, it is a fact that it is often impossible to disperse the fluid without recourse to operation, and, despite the comparative safety of operations on the articulations as practised in our day, it is nevertheless better to avoid even a puncture with an aspirator needle, if possible.

As a substitute for aspiration or a cutting operation in cases of hydrarthrosis of the knee which have resisted counter-irritation, pressure, etc., Dr. Georges Berne, of Paris, proposes subcutaneous rupture of the synovial membrane (*éclatement*), so as to promote the escape of the fluid into the surrounding tissues (*L'Union Médicale*, August 6, 1889). Examination of a knee-joint containing much fluid shows that fluctuation is most apparent at the upper and inner part, and if the joint be semiflexed the distended synovial sac will form a very distinct prominence in this situation. Dr. Berne's plan is to render this portion of the sac very tense by making upward pressure over the joint with the palm of the hand, so that a constricted neck is formed between the inner condyle of the femur and the concave border of the hand. The sac being thus rendered very tense, firm pressure is made upon it by the thumb of the constricting hand, or it is tapped somewhat sharply by the ulnar border of the fist of the other hand. By this means the synovial membrane is rent, and an escape of fluid takes place into the neighboring cellular tissues, where absorption readily takes place, owing to the abundant supply of lymphatics in that region. Resorption of the fluid is further aided by massage practised after rupture of the sac.

Dr. Berne has never seen any bad effects follow this procedure, and he recommends it especially on account of its safety and of its ease of execution. The method is, however, applicable only to comparatively recent cases, in which no marked thickening of the synovial membrane has taken place, and in which no evidences of inflammatory action are present.

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Tuberculous Infection through Ear-rings.—A case is related in the *Wiener Medizinische Presse* of a young girl, fourteen years of age, of a perfectly healthy family, who wore ear-rings left to her by a friend who had died of pulmonary tuberculosis. Soon ulcers appeared on the lobes of both ears, the cervical lymph-nodules became swollen, and percussion revealed dulness at the apex of the left lung. Tubercle bacilli were found in the ulcers and in the sputa. It was presumed that the ear-rings were the agents of infection.

# News of the Week.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE held its annual meeting in Toronto, commencing August 28th. Professor Mendenhall, the President-elect, delivered an address of welcome. The first paper in the Anthropological Section was by Mr. Garrick Mallery, of Washington, and was entitled "Israelite and Indian—a Parallel of Culture in Planes of Culture." The general thought implied in the paper was an effort to show that there is a strong similarity between the Indian and Israelite races. An examination of the history of both races would show that they are on parallel planes of culture.

AN ACCIDENT IN A PHILADELPHIA HOSPITAL.—A painful accident, whereby several nurses were injured, occurred last week in the Philadelphia Lying-in Charity at Eleventh and Cherry Streets. Two strands of cable attached to the elevator broke and the car fell from the third floor to the basement. The elevator contained five nurses and the elevator boy, all of whom were more or less injured.

FOUNDLINGS AS FREIGHT.—The Russian Minister of the Interior has just issued an ordinance to all railway officials prohibiting the further packing of small children in baskets and forwarding them to the foundling-houses in the great towns as hand-luggage. The children were often packed as many as eight in one basket. The object of shipping the poor waifs in this way was to avoid the payment of fare, as it appears that the rules of the Russian railways always require payment for children of whatever age they may be.

THE PRINCE OF WALES is reported to be suffering from a mild attack of gout.

THE RIGHT TO PRACTISE MEDICINE IN BRITISH COLUMBIA.—An odd state of affairs exists in regard to medical practice in British Columbia, according to a correspondent of the *Lancet*, whereby Canadians as well as Americans are discriminated against in favor of those educated in Great Britain. It appears that during the last session of the Local Parliament a number of medical acts were consolidated, and among them an act of 1866 which was thought to have been repealed. Consequently, as the law stands at present, only men with British diplomas have the right of practising in the province without examination. All others, Canadians and Americans alike, have to pass an examination, and have moreover to pay a hundred dollars to the Provincial Medical Council.

LATE PREGNANCIES.—A correspondent writes for definite information regarding late pregnancies. Can any of our subscribers give cases of fifty years of age and over?

TYPHOID FEVER ON A TRAINING-SHIP. — There is a slight epidemic of typhoid fever on the United States training-ship New Hampshire, and a number of cases at the Newport Hospital. Investigations into the cause are to be made by a board of naval surgeons.

THE USE OF COSMETICS IN BERLIN.—Some statistical fiend says, concerning the women of Berlin, that they use every day over 400 pounds of face powder, 250 pounds of rouge, 125 pounds of eyebrow-paint, 100 pounds of lip-salve, and 50 pounds of cold cream.

THE INTERNATIONAL PRISON CONGRESS will be held in St. Petersburg in the summer of 1890. A prize of $400 is offered by the conductors of the *Prison Discipline Review*, for the best essay on the subject: "What in the most civilized nations has been the historical development of the institutions relating to the correctional education of minors who have been convicted of crimes at common law, or who have been put in custody for idleness and vagabondage, or with a view to paternal discipline?" The essays must be written in Russian or French, and must be sent to "The President of the Organizing Committee of the Fourth International Prison Congress, at St. Petersburg," not later than May 15, 1890. They must be furnished with a motto, and accompanied by a sealed letter containing the writer's name and address.

TYPHOID FEVER IN LONDON.—There has been something of a fever scare in the West-end in London, a number of cases of typhoid fever having occurred there during the past few weeks. The disease was of a mild type, but it was remarkably wide-spread, a number of cases appearing almost simultaneously in different houses scattered over a wide district. It is thought that milk was the means of spreading the contagium.

ENGLISH PHYSICIANS IN SWITZERLAND.—The Swiss Government has refused to allow foreign physicians to practise in that country, and even forbids apothecaries to dispense any prescription written by them. This action is aimed more particularly at the English medical men who have followed their patients to the Swiss resorts, and have sought to obtain a practice among the English residents. The action of the Government is said to have been taken at the instigation of Swiss physicians residing at the popular health-resorts, and who did not relish the idea of having the cream of their practice taken from them by foreigners.

THE SIXTY-SECOND CONGRESS OF GERMAN PHYSICIANS AND NATURALISTS will meet at Heidelberg on September 18th to 23d. Several foreign medical men have been invited to take part in the proceedings of the Congress.

DR. THOMAS KING CHAMBERS, of London, died in that city on August 15th. He was honorary physician to the Prince of Wales, but had not been in active practice for a number of years. Dr. Chambers was the author of several articles in Reynolds' "System of Medicine," and had also published several works on subjects relating chiefly to diet and diseases of the digestive organs.

DR. JOHN T. BANKS, of Dublin, has been created a Knight Commander of the Order of the Bath.

THE SECOND ITALIAN CONGRESS OF INTERNAL MEDICINE will be held in Rome on October 15th to 17th. The chief subjects for discussion will be gout, nephritis, and malaria.

A NEW TRI-STATE MEDICAL ASSOCIATION.—A call has been issued to the members of the medical profession in Alabama, Georgia, and Tennessee, to meet in Chattanooga on the third Tuesday in October, for the purpose of forming a Tri-State Medical Association. All will be admitted to the meeting of the Association, but the membership will be restricted to graduates of regular medical colleges in good standing. This call is signed by committees from Jackson County, Ala., Medical Society;

Chattanooga, Tenn., Medical Society; Cleveland, Tenn., Medical Society; Cartersville, Ga., Medical Society; Dalton, Ga., Medical Society. The organization will be independent of all other societies. It will be an association of individual members of the profession of medicine, and will be managed in the interest of medical progress. The session will continue two days. Those desiring to read papers or exhibit specimens are requested to notify the secretary of the committee, Dr. F. T. Smith, of Chattanooga, Tenn., at an early date.

THE ANATOMICAL SOCIETY OF GREAT BRITAIN held its annual meeting on Thursday, August 15th, in Leeds. Dr. Ambrose Birmingham succeeded, by following the nerve-trunks, in ascertaining that an extra lumbar vertebra belonged to the sacrum and not to the dorsal region. Drs. Griffiths and Oliver, having observed that the distribution of herpes zoster seemed irreconcilable with current accounts of the anatomy of the spinal nerves, were led to investigate their anatomy. They showed that the dorsal branches of the spinal nerves were distributed to the skin very much lower than is supposed, and that they ran downward for some distance in the substance of the muscles. They also presented a series of specimens and frozen sections from the Leeds Museum, showing a patent parumbilical vein, an anomalous round ligament of the liver, feet with six toes, frozen sections of the pelvis. Dr. R. W. Reid also sent some rare specimens of cervical ribs, a fifth lumbar vertebra with a suture in the neural arch between the upper and lower articular facets. Messrs. Lockwood and Withers showed an unusual right aortic arch, which, while showing the usual condition, had persistence of a part of the second left arch, which gave off the left subclavian artery. Professor Alexander Frazer showed a series of photographs of anatomy, histology, and embryology. He also described some bodies like Pacinian corpuscles, which he had found in the thyroid gland, and in giving the details of his work on the spinal cords of a number of rodents, said that he found that the pyramidal tract ran in the posterior columns of the cord, and not as others had described.

INTERNATIONAL MEDICAL CONGRESS.—A further announcement concerning the Congress has been made. Membership is limited to physicians and surgeons in regular standing. The registration fee is twenty marks, and each member will receive a copy of the Transactions. The purpose of the Congress is purely scientific, and its business will be transacted in sections. In the first sittings of the various sections a president and a sufficient number of honorary presidents will be elected, the latter to preside alternately with the former. Owing to the difference of languages, a sufficient number of secretaries will be appointed from among the foreign members. The general sittings are intended for debates regarding the work and general relations of the Congress, and for addresses and communications of general interest. Such addresses are to be delivered only on invitation of the Committee of Organization. Proposals relating to the work of the Congress must be made to the said committee before July 1, 1890. The committee will decide whether they shall be adopted or not. All discourses and communications in the general and in the sectional meetings must be delivered to the secretaries in writing before the close of the sitting. The Editing Committee will decide whether and in what compass these writings are to be printed in the Transactions. The official languages used at all meetings will be German, English, and French. The by-laws and programmes will be printed in all three languages. Introductory discourses in the sections are to be limited, as a rule, to twenty minutes; in discussion only ten minutes are allowed to each speaker. Students of medicine and other persons of both sexes who are not physicians, but feel interested in the debates, may attend the sittings on permission being obtained from the president.

ACETOPHONE.—Acetophone, or methyl-phenyl-ketone, which has been employed chiefly by some French physicians as a hypnotic, has recently been studied by Dr. S. S. Kamenski ("St. Petersburg Dissertations," No. 70, 1888–89) in the laboratory. He finds that it lowers sensibility and interferes with reflex action. Large and medium doses produce a moderate amount of sleep. It quickens the heart's action, probably by stimulating the accelerator nervous apparatus. It increases the irritability of the respiratory centre, except in large doses, which may arrest respiration altogether. It lowers the blood-pressure by its action on the vaso-motor centre, and by weakening the heart's action. Medium and large doses lower the irritability of the brain, and even small doses have a similar effect on that of the cord.—*Lancet.*

YOUNG MEDICAL STUDENTS.—A correspondent of the *Hospital Gazette*, writes from Glasgow that the average medical student seems to begin his work very early nowadays. Of the students who had completed their curriculum here, several were compelled to wait a year for their examination on account of their age, while no less than a dozen who had just passed the final "exam." would not be able to graduate for six months, until they should attain their majority.

RECIPROCAL TRANSFUSION IN TYPHOID FEVER.—A writer in the *British Medical Journal* suggests the treatment of typhoid fever by mutually transferring the blood of a person with the disease and that of one who has already passed through an attack. He reasons that in this way the bacilli will be destroyed by having no more pabulum upon which to feed, while the healthy individual, already enjoying an immunity, will not suffer. This seems to be the season for queer notions in medicine.

THE DIAGNOSIS OF PERFORATION OF THE DRUM-MEMBRANE.—Dr. Spear proposes the following method for detecting minute perforations of the drum-membrane: While looking into the auditory canal in the ordinary manner, with speculum and mirror, hold a piece of cold glass close to the speculum, have the patient do the Valsalva experiment, and if a perforation exists the vapor of the breath will be condensed upon the glass and obscure the view.—*Boston Medical and Surgical Journal.*

PROFESSOR V. BERGMANN, of Berlin, has recently received from King Humbert the grand cross of the Italian Order of the Crown. During the recent visit of the King of Italy in Berlin, one of his officers was seriously injured at a review, and was treated at the special request of Emperor William by v. Bergmann, and this decoration was his reward for having brought the case to a successful issue.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

(Special Report for THE MEDICAL RECORD.)

*Fifty-seventh Annual Meeting, held at Leeds, England, August* 13, 14, 15, *and* 16, 1889.

(Continued from page 246.)

### THURSDAY, AUGUST 15TH—THIRD DAY.

THE PRESIDENT said that a resolution had been adopted, by the Section in Public Medicine, having for its object an improvement in the public health service, which had been referred to the general body for approval. The resolution was unanimously approved.

MR. T. PRIDGIN TEALE then delivered the Address in Surgery (see p. 232), taking for his subject

DETAIL IN SURGERY.

At the conclusion of the address a vote of thanks was moved by DR. MACEWEN, who said that he had learned a great deal of surgery during his visit to Leeds. The name of Teale was one which was known throughout the surgical world, father and son having contributed largely to surgical science. Mr. Teale's accomplishments were not confined to surgery, but included the most delicate operations upon the eye. He also devoted a considerable amount of time to sanitary subjects, and had made himself an authority on the economy of coal.

DR. MITCHELL BANKS seconded the motion, remarking that he should like to be able to express to Mr. Teale the sentiments of respect and admiration with which they regarded him as the type of all that was best in British provincial surgery. It was given to some to excel in one department of the profession, but to excel as an operating surgeon, and to take rank as an oculist, and to be foremost among the sanitary scientists of the country was given to very few.

The resolution was adopted unanimously.

AN INQUIRY INTO THE MANAGEMENT OF MEDICAL CHARITIES.

THE PRESIDENT then gave notice of the following resolution, which would be moved at the next session:

"That this meeting of the British Medical Association views with great pleasure the action of the Charity Organization Society of London in presenting a petition to the House of Lords praying for an inquiry into the management of the metropolitan medical charities, and earnestly hopes that the scope of the inquiry will be extended so as to include provincial hospitals and dispensaries, with the view of obtaining as complete information as is possible upon this important subject; that a copy of this resolution be forwarded to the Lord President of the Privy Council, and that he be requested to receive a deputation; that the Council be requested to appoint a special committee to deal with the question, and request the Charity Organization Society of England to form a similar committee to act in conjunction with it."

In the evening the members of the Association and of the profession, of Leeds, met at a banquet which was given in the Town Hall.

### FRIDAY, AUGUST 16TH—FOURTH DAY.

SIR JAMES CRICHTON-BROWNE delivered the Address on Psychology, taking for his subject

THE HYGIENIC USES OF THE IMAGINATION.

A large part of the burden of caring for the insane fell upon the general practitioner, for many of the mentally afflicted were now treated privately instead of being cared for in asylums. It was true that there were

EIGHTY-FOUR THOUSAND FOUR HUNDRED AND SEVEN INMATES OF INSANE ASYLUMS

who were under the care of specialists, yet nearly all had been consigned there on the evidence of medical men who were not specialists. A bill recently passed in Parliament, and now awaiting the royal assent, would in a measure relieve medical men from much of the apprehension which they now felt in signing lunacy certificates, but nothing could take away the sense of responsibility which they must necessarily feel in thus depriving any person of his freedom and entailing upon him sure opprobrium as well as far-reaching disabilities. The certification of insanity must, therefore, always remind the general practitioner that psychology is a subject of especial and practical interest to him. But it was not here alone that medical psychology came into prominence, for it met the general practitioner at every turn, and in his daily practice.

An address such as the present might emphasize the psychical side of the union of mind with matter. The researches of many physiologists led to materialism, but mind was not a mere exhalation of brain-substance. Materialism was an error—confusing the objective with the subjective. To describe consciousness as a function of the brain was erroneous. Volition, cognition, and feeling were not functions of the brain. The real nature of the relation between mind and matter was unthinkable. Various theories had been suggested; as, that the psychical relation of mind to the brain was that the mind acted through the nervous system; that the brain and mind were simply the reverse, one of another; and that there was a parallel between mental states and states of the brain (theory of parallelism or concomitance). The latter view was that held by Herbert Spencer, Tyndall, and Hughlings Jackson. The psychical centres had been placed in the prefrontal lobes. Electrical stimulation of these lobes in monkeys had led to the belief that they were not motor. But the psychical centres could not be pent up in any part of the brain. Trousseau had related the case of an officer whose frontal lobes had been pierced by a bullet without any sensible loss of intellect, and he had himself conversed with a man from whose right hemisphere Professor Horsley had taken a tumor the size of a goose's egg, and in whom he could detect no mental defect.

Confining his remarks, then, to one of the mental faculties, imagination, the speaker said that it had an application in the treatment of disease which neither the general practitioner nor the specialist could afford to neglect. This psychic power was like a pioneer in a new country, for

IT OPENED UP NEW PATHWAYS IN THE BRAIN,

by means of which its different territories were brought into closer and more ready communication. The brain, without imagination, was like a country without railways, in which locomotion was laborious and slow; and the brain richly gifted with it was like one in which steam and electricity had established easy and rapid communications. He would not stop to trace that development of imagination which, resting upon intuitive beliefs and historical facts, and stirred by the most earnest cravings of our nature, mounted into faith and revealed to man "the substance of things hoped for, the evidence of things not seen." Neither could he devote much of the time at his disposal to those

EXCRESCENCES ON FAITH

known as Christian science and faith-healing, which had a certain vogue at present, and fell legitimately within the scope of medical inquiry. It was not to be gainsaid that faith, even in its aborted or degenerated phases, had a potent effect on the human organism, and was capable of relieving and removing certain functional disorders; and credit might therefore be given to faith-healing and Christian science for some of the cures which they claimed. Their professors, like empirics of all sorts, had wrought modern miracles on hypochondriacal men who had fallen into drivelling egotism; on hysterical girls who had entertained demons, not unawares; and on a few sincere but highly sensitive persons who

could pass at a touch out of one allotropic state of the nervous system into another. But the small good they had done these had been more than counterbalanced by the mischief they had wrought in encouraging imposture, in postponing medical treatment where it was needed, and in inducing in their adherents an attitude of mind that was debilitating and conducive to the incursion of disease. Before faith-healers and Christian scientists could claim a hearing, they must learn how to make an accurate clinical report, apprehend what induction really meant, and abandon the baseless assertions in which they at present dealt. Only impatience and contempt came to the medical man who perused their pretentious archives of cures in cases in which disease was evidently simulated, in which it ran its natural course, in which its existence was asserted, no proof being given, or in which it was of a purely subjective character, and might or might not depart at the word of command—such archives being, in one or two instances, accompanied by minute directions as to how post-office orders are to be forwarded. Let the faith-healers and Christian scientists, he said, commence with skin diseases—lure the acarus scabiei from its burrow without the aid of sulphur, arrest lupus, and wipe out a nævus—and then their claims of power to cure internal diseases might be listened to with some respect. But it was not of faith, or of this travesty on faith, that he had to speak. The subject of his remarks was simply imagination,

SECULAR IMAGINATION,

he might call it, which was one of the most effectual of those psychical agencies by which the conditions of health and of disease might be modified. He would consider especially the hygienic uses of this mental faculty, though a word might be said as to its scientific use as an instrument of discovery in investigations of disease, both particular and general. Medical men had not merely to identify and catalogue the symptoms of disease, but they had to trace them to their antecedents and true causes, and this they could only do by invoking imagination's help to supply them with speculations and hypotheses, which were not less essential to them in their work than the microscope, test-tube, and clinical thermometer.

ALL TRUE SCIENCE RESTS ON IMAGININGS,

he said, and is nothing else than a body of established truth which imagination has built up. Observed phenomena had to be explained by unfolding their causes; and in medical inquiry a provisional guess was hazarded, which was then put to the test by further observation and experiment. Of course, such provisional guesses were often wrong, and then had to be given up. But all the truths of science had been provisional guesses to begin with—working theories formulated by the imagination, and proved by the touchstone of experiment, and so brought to a mathematical certainty.

The cultivation of the imagination was most important to medical men, and they need not fear that they were wasting their time when they turned aside now and then from their pofessional tasks to ramble for a little in the green pastures of literature. Imagination might be fully trained for its professional duty, as it was exercised, in conjunction with observation and judgment, in the scientific sphere; but it would be braced, invigorated, and have its resources multiplied by recreating occasionally in its native air. Even if imaginative pursuits did not strengthen the hands of medical men in grappling with disease, or quicken their scientific vision, they would still be commendable because of the refreshment they bring to jaded brains. To turn from the fatigue and anxieties of practice into realms where rivalry was no more and night-bells never rang, was to plunge into one of the most soothing and depurative of

TIRED NATURE'S BATHS.

Members of the medical profession were, indeed, generally aware of this, and resorted to imaginative literature, music, and art more than any other class of professional men, except, of course, artists and men of letters, and to an extent that was remarkable, considering the engrossing claims made on their time and the scant leisure they enjoyed. Having referred to some of the contributions of medical men to the department of imaginative work, the speaker said that it was not as producers, but as consumers of poetry and imaginative literature, that they derived from them their restorative influence. It might be objected that the imagination, if sometimes stimulating and restorative in its influence, was often morbid in its tendencies, and that its indulgence was to be guarded against by those who desired to possess well-regulated minds. But the weak vessels wrecked by imagination were really fewer than was commonly supposed; and he did not hesitate to say that there were a dozen cases of

INSANITY CAUSED BY WANT OF IMAGINATION

for one caused by excess of it. Apathetic dulness and torpor of mind were apt to deepen into dementia; and those entirely given up to "the care of this life and the deceitfulness of riches" were more likely to be choked by them than those who could surmount them, and breathe the free and ample air of æsthetical emotion. A vulgar error as to the nature of insanity had perhaps conduced to exaggeration as to the dangers of imagination. Visitors to asylums invariably expected to find growths of morbid invention and belief, wild, tangled, and luxuriant as a tropical forest, and left much disappointed by the barrenness of the land, for the insane were the least imaginative of beings. Idiocy was the absolute negation of imagination, and insanity undermined and destroyed or enfeebled it more or less; and, when they tried to drive out insanity, the first thing they did was to invoke imagination's aid, for moral treatment consisted mainly in appeals to this faculty, and fully acknowledged its hygienic uses.

THE FIRST RECORDED CURE OF MELANCHOLIA

was by the harp of David, and to-day in every lunatic hospital worth the name persistent efforts were being made by music, by pictures, by poetry and the drama, to stimulate the imagination, and thus "cleanse the stuffed bosom of that perilous stuff that weighs upon the heart." Like every good gift, imagination might be prostituted and abused, and in the history of art, literature, and the drama, abundant proof might be found that it had been made to pander to vice and folly. But when this had been the case, it was not so much the imagination that had been at fault as a certain pestiferous element that had been infused into it. The records of crime, when reported with prurient detail, and with a halo of romance thrown round them, had sometimes a permanently pernicious effect, and tended to reproduce themselves.

MEN OF TASTE TURNED FROM SUCH GARBAGE WITH DISGUST,

but there were always sickly and partially depraved natures ready to be powerfully affected by strong impressions of a criminal complexion. Sheer weakness and vacuity or instability of temperament are the soils most congenial to vicious and atrocious ideas. A highly and widely cultivated imagination seems to increase physiological resistance to morbid and profligate suggestions, and also to pathogenic germs, for in plague and pestilence those are most likely to escape who have varied mental resources, can distract their minds and look beyond the moment, and those are most likely to succumb who give themselves up to abject fear.

The speaker then referred to the

INCREASING PURITY OF ENGLISH LITERATURE,

which was so noticeable at the present time, and pointed out the absolute necessity that existed for the preservation of the literature for the young from any taint of impurity, since impressions made at this time were indelible and would influence the whole future of the individual. The study of statistics of public libraries had brought out

one fact that was most interesting to medical men. This was that the call for works of fiction and volumes of poetry was greatest in the spring, when nervous erethism existed, and "a young man's fancy lightly turns to thoughts of love," and was least pressing in autumn, when the nervous system was comparatively quiescent. In concluding his address, Sir James Crichton-Browne said that he had endeavored to unfold before his hearers some of the uses to which imagination might be put by the medical man, and he would only repeat now the assertion that imagination must always receive primary consideration in a study of mental hygiene.

After a vote of thanks had been extended to the speaker, a number of resolutions were introduced, among others, the following upon the

DISPOSAL OF TOWN-REFUSE,

presented by the Section in Public Medicine.

1. That this meeting hereby expresses its disapproval of any system of middens, sewers, cesspits, dust-bins, etc., which involves the storage of filth or house-refuse in the immediate neighborhood of dwellings.

2. That it further considers that in towns, villages, and other populous places the sanitary authority should itself undertake the removal of such refuse from each household at frequent, regular, and, in populous places, daily intervals, at the public expense, without waiting for notice to be given by the householder.

3. That it expresses its preference for small movable, water-tight receptacles for the collection of house-refuse or other excreta, in order to fill the essential conditions of preventing pollution of soil as well as air.

THE PRESIDENT then proposed a

VOTE OF THANKS

to the citizens of Leeds for the very handsome manner in which the Association had been received and entertained. After a vote of thanks to the President had also been passed, the meeting was adjourned.

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## SECTION IN PUBLIC MEDICINE.

WEDNESDAY, AUGUST 14TH—FIRST DAY.

DR. EDWARD BALLARD, President of the Section, opened a discussion on

MEDICAL OFFICERS OF HEALTH.

He dwelt especially upon the requisites for an efficient medical health-officer. In the first place, he should be possessed of that kind of learning which should fit him to deal with and to advise about disease as it affects the community rather than as it affects the individual.

Since, however, communities are made up of individuals, a knowledge of disease as it affects individuals is the basis of the knowledge of disease as it affects communities, and this is the reason why an officer of health, to be efficient, must be a medical man "Nihil humanum a me alienum puto" is the motto which every practitioner of the art of medicine appropriately adopts; "Nihil mundanum a me alienum puto" should be the motto of every medical officer of health.

Secondly, he requires practical training under the direction of a good health-officer, just as the practising physician needs hospital training. Finally, they should be possessed of tact, and this was of equal importance to the rest, for without it the other qualifications would be practically useless. Health-officers had many things to contend against, and their troubles were neither few nor light, but their burden would press less heavily upon them if they would seek consolation in scientific studies.

Nature is never unkind to such as in the proper way seek to learn her secrets; she never disappoints, never vexes, never discourages. To the medical officer of health working in the baldest rural districts, as well as to him who labors in the crowded town, she holds an open gate, and says, "Treasure is hidden here; my servants are contented and happy; come and dig."

DR. C. E. J. GREENE was unable to be present, but sent a paper upon some of the difficulties in the way of an efficient carrying out of the sanitary officer's duties. He suggested that medical officers of health should possess a diploma in sanitary science, obtained by passing a Government examination in analytical chemistry, botany, geology, pathology, and sanitary engineering; should hold jurisdiction over a large area; be appointed by and draw their pay from Government, which pay should be sufficient to support them without their engaging in any other occupation; should not engage in private practice; and should have the option of promotion to a better district after some years' service.

DR. CALDWELL SMITH thought that

TOO MUCH ANALYTICAL CHEMISTRY

was required of medical officers. Although they should know something of the subject, it was not necessary for them to pass six months in an analytical laboratory, nor did he think it advisable that they add the duties of a public analyst to those of a health-officer.

DR. LITTLEJOHN agreed with the last speaker as to the unadvisability of combining the public analyst and the health-officer in one person. He thought there should be a rule forbidding medical officers of health from engaging in private practice.

Several other speakers took part in the discussion.

MR. J. B. JAMES read a paper advocating the appointment of

A CABINET MINISTER OF PUBLIC HEALTH.

DR. GARROD spoke against

SENDING PATIENTS TO FOREIGN HEALTH-RESORTS.

He stated that a committee had been appointed by the Royal Medical and Chirurgical Society for the purpose of seeing what could be done at the different bathing places in England, Wales, and Scotland in the treatment of cases which now usually went abroad.

MR. R. C. APPLETON contended that consumptives were just as much benefited in going to some of the sea-coast places in England as to the Continent. It has not been proved that the climate of this country could not do as much good as continental places; hence he thought the members of the Section should make a strong stand against the practice of leading medical men who sent patients to the Continent without any results superior to those which were obtainable in our own country.

MILK AND TYPHOID FEVER

was the subject of a paper by DR. ANDERSON, of Dundee. He observed that in February, March, and April last, an outbreak of typhoid fever occurred among the customers of one particular dairy in Dundee, and the most searching inquiries failed to find any trace of disease among the persons handling the milk or in their households. He was satisfied this milk did not acquire-infection from the human subject. The sanitary inspector and himself examined the teats and udders of all the cows which supplied the suspected milk. On one of the cows they found an eruptive disease on each of the four teats, presenting the appearance of ringworm, level in the centre, the margin raised, thickened, and excoriated, without scab or crust or infiltration of the base; the eruption on the inner side of the left hind teat being nearly circular, and about the size of a shilling; those on the other teats being apparently of longer standing, and encircling the whole teat, so as to present, not a circular eruption, but a raised, thickened, freely excoriated edge. There was no eruption on the udder nor on the body. The cow appeared to be in perfect health, with a fine coat.

DR. CALDWELL SMITH did not see that any causal relation between the eruption on the cow's teats and the outbreak of typhoid had been proven.

Dr. T. Churton presented a communication entitled

INSANITARY HOUSES IN LEEDS,

in which he detailed the results of a systematic inquiry into the sanitary state of the homes of hospital patients. About one house in five was found to be in a decidedly insanitary state. He thought that the inspection of the dwellings where patients in hospital had lived was a matter of considerable importance, and should be more systematically made.

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Thursday, August 15th—Second Day.

Dr. Parsons read a paper on

DISINFECTION WITH REFERENCE TO THE CONTROL OF EPIDEMICS.

By disinfection, he said, he meant the destroying of the activity of that matter which, produced by a sick person and received into the system of a healthy one, had the power of causing in the latter a disease similar to that from which the former was suffering. Modern research had shown that certain diseases in men and animals were undoubtedly caused by the presence in the system of micro-organisms that were communicable by the inoculation of such organisms. Of the pathogenic microbes the most convenient for the purpose of testing disinfecting agents was the bacillus anthracis. It formed, under certain circumstances, spores which were exceedingly tenacious of life; it could be cultivated, and was easily recognized both by its microscopic character and its appearance when growing, and if inoculated into animals it produced in them with certainty the disease known as anthrax. None of the ordinary infectious diseases of mankind were known to be caused by spore-bearing microbes, though it was possible that small-pox, the contagium of which was very tenacious of life, might turn out to be so; and so far as their present knowledge and experience went, they might assume that means which would destroy the spores of the bacillus anthracis might be relied on as efficacious for their purpose, though it would not follow that agents which did not destroy bacillus anthracis were therefore useless against the less resisting contagia of other diseases.

The speaker then referred to various experiments to determine the

BEST MEANS OF DISINFECTION.

It had been shown that steam would destroy the pathogenic micro-organisms much more quickly and more surely than dry heat. Carbolic acid and sulphurous acid gas were efficacious to a certain extent in destroying the vitality, or at least retarding the growth, of bacteria, but bichloride of lime was the best disinfectant when it could be employed. The matters which might act as carriers of infection, and might thus require disinfection, were: 1. The body of the patient, living or dead. 2. The discharges given off from the body of the patient, and more particularly those from the organs specially affected by the disease. 3. The air, tainted by exhalations from the sick, and the poison probably existing therein in the form of suspended particles. 4. The clothes, bedding, and other textile articles used by the sick. 5. Utensils of various kinds used by the sick. 6. Articles of food, as milk and water. 7. Walls, floors, etc., of dwellings occupied by the sick, especially dust and dirt lodging upon the walls, and dirt accumulating in the cracks of the floor. 8. Collections of filth, as sewage, especially in a stagnant state, or deposited in or encrusting the sides of foul drains, foul ground surfaces, and subsoil. It was not of much use attempting to disinfect the infected air of sick-rooms by chemical means, for active chemicals, if present in sufficient quantity to be effective as disinfectants, would render the air irrespirable. It was easier to get rid of it, and let its place be taken by fresh air. The contagia of most infectious diseases appeared to be destroyed when fully diluted by fresh air. The poison of typhus fever was notably so, but that of small-pox did not appear to be, and it had been proposed that, instead of ventilating small-pox wards into the open air, the air from them should be extracted through a flue and burnt in a furnace. Or, he might suggest that a steam-blast might be used to extract the air and disinfect it at the same time. Of chemical disinfectants for the disinfection of excreta, corrosive sublimate, probably, is the most trustworthy and suitable for ordinary use.

For most cases of disinfection, either dry or moist, heat could be used, but leather was destroyed by steam. Books could be disinfected by means of dry heat, the leaves being spread open. For

HOUSE DISINFECTION,

fumigation with sulphurous acid or chlorine gas, the latter preferred, followed by thorough cleansing and scrubbing, the removal of wall-paper and whitewashing, were to be recommended; but these processes, to be effectual, needed to be carried out with more thoroughness than was often done.

Dr. Caldwell Smith spoke of

THE NECESSITY OF ISOLATION

as well as disinfection. The latter was often very thoroughly carried out, while no attention at all in many cases was paid to the former. He advocated the establishment of cottage hospitals, in rural districts, as well as in towns, and said that all cases of zymotic disease should be removed to the hospital. It would be necessary, however, to teach the public before the need for this strict isolation would be realized.

Dr. W. Squire also referred to the great value of isolation in the prevention of epidemics. The disinfection of premises, rooms, and clothes, which followed upon the removal of the sick, often prevented other cases arising from the same source, while the removal of the patient for the whole period of infection was a more efficient safeguard against its spread than any amount of soap and water or external disinfectant could possibly be. Both means should be in force, but it was useless to give notice of the presence of infection unless means of isolation were provided and insisted on; no method of disinfection would succeed unless those who had been exposed to infection were kept from mixing with others, at school or elsewhere, until they were known to have escaped it, and those who had been attacked were kept from mixing with the susceptible until the infectious period was over. The results of this system of isolation were very clearly shown in the lessened mortality of scarlet fever during the epidemic in 1887. In that year the disease in London was less fatal than in many non-epidemic years, and so completely was it arrested, that for the first time since registration began, no autumnal increase of it occurred at the end of the last year.

Dr. E. W. Hope cited several cases in which neglect to isolate and disinfect had been followed by disastrous results.

Dr. C. H. Allfrey read a paper on

INFECTIOUS DISEASES IN HOTELS,

in which he gave an account of an outbreak of scarlatina, which occurred while he was acting as resident physician at the Grand Hotel, Grasse, and laid stress on the importance of extreme caution in giving advice as to infection from mild cases, holding that it was only safe to treat all cases, however mild and whatever their stage, as equally infectious, believing that infection depended more on the susceptibility of the patient and on the degree and circumstances of the exposure, than on the severity or stage of the infecting case. He expressed an opinion, that a second outbreak which occurred in the hotel would have been prevented altogether had the removal from the hotel of the whole of the infected family been insisted upon. He thought that the importance of adopting such a course upon similar occasions should be impressed upon all hotel-

keepers. He advocated the formation of an association of hotel-keepers, having for its principal objects (1) an agreement to insist upon the removal from their hotels (as soon as practicable and convenient with the safety of individuals) of all members of an infected family; (2) an agreement to require the signature of all visitors to a declaration that none of the party had been suffering from, or, to their knowledge, exposed to, infection within a certain period; (3) the establishment of a register of sanitary certified hotels. He warmly advocated the non-concealment of the occurrence of infectious cases, both as a matter of justice to the visitors and as a matter of policy to the proprietors. He believed that visitors in a hotel where the existence of infectious disease was known, and where they could see what precautions were taken, and gauge the degree of danger, were safer than in chance hotels, where cases of infectious disease might be concealed.

Dr. Hutchinson stated that he had charge of the recent outbreak of scarlet fever at Monte Carlo, and with regard to the hotel arrangements he experienced exactly the same difficulties as Dr. Allfrey had described. The present mode of disinfecting rooms after scarlet fever was absolutely useless, as was proved by a case which came within his experience at Monte Carlo, where a young man, after sleeping in a thoroughly disinfected room, occupied three weeks previously by a patient, caught the fever and died. They should have villas of isolation, and next year he hoped that some institution of that kind would be provided at Monte Carlo for the reception of cases as they arose at hotels.

Dr. Littlejohn thought the villa system was impracticable, but favored the establishment of a hospital for contagious diseases in every city. In Edinburgh there was a hospital of this kind in which the well-to-do as well as the poor sought care and treatment whenever they were suffering from any contagious disease.

At the conclusion of the discussion the Section adopted a set of resolutions embodying the suggestions made by Dr. Allfrey.

Dr. Greenwood then read a paper upon the

DISPOSAL OF TOWN REFUSE,

in which he urged the necessity of covered wagons for the removal of waste matters.

Dr. Slade-King said that combustion was the only practicable method of safely disposing of house refuse.

Other papers were read dealing with the same subject and suggesting better methods of disposing of waste matters than those now in use, and a committee was appointed to draw up resolutions expressing the views of the Section on this point.

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Friday, August 16th—Third Day.

Dr. Greenwood, on behalf of the committee appointed to draft resolutions on the disposal of town refuse, reported that a set of resolutions had been adopted and would be presented to the general meeting of the Association for approval.

Dr. J. T. Arlidge presented a communication entitled

THE SOURCES OF LEAD-POISONING IN THE ARTS AND MANUFACTURES.

This metal exerts its poisonous influence under three forms, namely—1, lead in the solid form, as lead ore, as metallic lead, and as an alloy; 2, in the form of its salts, whether in powder or solution; and 3, in a mixed form, with oils and fluxes. In the form of ore it is productive of plumbism among the miners and smelters, being injurious to the former chiefly in the shape of dust, and to the latter in that of vapor. It is, too, as a vapor that it produces its noxious effects among the makers of the oxides of lead in the process of calcination. In the case of metallic lead, plumbism is a result among those who frequently handle it, such as file cutters, makers of leaden pipes and of shot and lead foil, plumbers, and type-casters. In type it enters as an alloy, and as such at times affects injuriously compositors. In the shape of an alloy it proves mischievous with pewterers, the makers of soft metallic capsules, and of inferior German silver or pinchbeck. Further, metallic lead becomes indirectly the cause of illness when employed to form utensils for the storage or preparation of articles of food or of snuff and tobacco, or in the construction of pipes for conducting or drawing off fluids. But cases of poisoning are caused more frequently by salts of lead, especially white and red lead. The writer also referred to the accidental introduction of the metal, in articles of food or in drinking-water, under conditions so well studied by sanitarians; in porter, beer, cider, and lemonade, or fruit juices, any of which may have stood in contact with lead or its alloys in the form of pipes or capsules; or in bottles carelessly cleaned with shot; in solid, but moist or deliquescent, food preserved in lead-foil, or so-called tin cans with soldered joints; or in food cooked or salted in vessels on the surface of which lead occurs as a glaze, or else which have it enter into their structure.

Dr. Arlidge then read a second paper, entitled

THE OBSERVATION AND RECORDING OF THE EFFECTS OF OCCUPATION UPON HEALTH.

Among the causes of disease, he said, the effects of occupation were not generally enough recognized, and, indeed, they had not yet been sufficiently studied.

To establish the study of industrial disease upon a sound footing it was necessary to ascertain the numbers engaged in a manufacture, the diseases occurring among them for a series of years, the character of those diseases, and the conditions of employment and the materials used in performing it. The inquiries to be presented were, therefore, of a four-fold character, viz., statistical, pathological, technical, and sanitary.

Dr. Sinclair White read a paper on the

CONTAMINATION OF DRINKING-WATER BY LEAD.

The measures which are of efficacy in preventing contamination, or in removing lead already present, were of three kinds. First, those in which lead piping and lead-lined cisterns are replaced by other materials, such as wrought-iron, tin, and glass-lined iron. These are most applicable in the case of new houses; and wrought-iron piping might be much more utilized than it is for this purpose. Secondly, removal of lead from the water. Nearly all forms of charcoal filters will do this most effectually. Thirdly, treating the water before distribution so as to do away with its solvent action. The last named is the most desirable way of combating the evil, but it is the most difficult to carry out.

Dr. T. B. Fairclough followed with a paper on the same subject. He believed that much of the anæmia and physical degeneration apparent in large towns was largely due to the constant drinking of small quantities of lead, the amount of lead palsy and lead colic being by no means a true indication of the real amount of lead-poisoning in any district. Soft waters were those to be avoided, and the water most fit for drinking purposes was spring water, of sufficient hardness to prevent its taking up lead under any circumstances.

Dr. Jessop read a paper on

THE NUTRITIVE VALUE OF FOOD,

in which he pointed out the advantages resulting from care in the preparation and cooking of various kinds of food.

Mr. Johnson Martin presented a communication upon

THE CARE OF LIVE STOCK AND ITS INFLUENCE UPON THE FOOD-SUPPLY.

He said that cattle were not cared for as well now as in former times. For example, the high embankments

which formed shelter from heat and cold for animals had been and were still being taken down, causing pleuro-pneumonia and kindred diseases. It would be a great calamity if owners and occupiers of farms did not at once begin to provide better shelter and purer water for their cattle. The impure water which many had to drink, and the sewage which they had to trample in, increased the virulence of foot-and-mouth disease. Swine-plague would spread more and the disease be more virulent where the animals were kept in a filthy state. Many medical men were of opinion that tuberculosis was transmitted from animals to man. Tuberculous diseases and diseases of the mouth and throat were, as a fact, increasing, and it was certain that man was more secure from disease when living on sound food than on that which was unsound or diseased. The drinking-water for a large number of the cattle and sheep in England was now polluted with sewage. The housing of cattle was also of great importance. He had the authority of several practical butchers for stating that formerly very few cows in England were found with diseased lungs and liver, and that now very few cows of five or six years were free from disease of the liver or lungs, or some part of the body. This, in his opinion, was due to there being insufficient shelter from heat and cold, together with an insufficient supply of pure water.

After a vote of thanks to the President, the Section then adjourned.

## INTERNATIONAL CONGRESS OF DERMATOLOGY AND SYPHILOGRAPHY.

*Held in Paris, France, August* 5, 6, 7, 8, 9, *and* 10, 1889.

(Special Report for THE MEDICAL RECORD.)

DR. RICORD, Honorary President, formally opened the Congress in a few well-chosen words, and others followed with addresses of welcome, after which the scientific work was begun. There were six subjects announced for discussion, to each of which it was determined that the forenoon of one day would be devoted, the afternoons being occupied in the reading and discussion of voluntary communications.

### DISCUSSION ON LICHEN.

DR. KAPOSI, of Vienna, said that the term lichen was formerly used to denote any eruption of small papules, and Hebra was the first to limit its application to a special pathological condition, of which he recognized two forms, called, respectively, lichen ruber and lichen scrofulosorum. In 1877 the speaker pointed out that there were varieties of lichen ruber, viz., lichen ruber planus of Wilson, and the lichen of Hebra, which he had ventured to call lichen acuminatus. These two forms may coexist in the same person, but the latter may be found alone. It is always fatal. The two forms, although apparently different, are yet identical. The existence of lichen acuminatus has been denied, but without justice. The disease does exist, although it is very rare, and it should not be confounded with the affection which the Americans, and with them Unna, call by the same name, nor with the pityriasis rubra of Hebra. Whether it was identical with the pityriasis rubra pilaris of Devergie, the speaker confessed himself unable to decide.

DR. JAMIESON, of Edinburgh, believed that lichen was a disease, *sui generis*, and he accepted the classification of Kaposi. He did not think that Kaposi's lichen acuminatus was identical with Devergie's pityriasis rubra pilaris. The difference was plainly marked by the results of treatment, for arsenic is of considerable efficacy in lichen but useless in the pityriasis of Devergie. The latter affection is accompanied by pityriasis capitis, which is not met with in the lichen acuminatus of Hebra.

DR. HALLOPEAU, of Paris, thought a mistake had been made in grouping several distinct affections under the common designation lichen, which were related to each other only in general appearance. The only disease to which the term should be applied was the

### LICHEN RUBER OF WILSON.

The speaker distinguished an acute and a chronic form, and divided the latter into several varieties, such as planus, acuminatus, obtusus, tuberosus, etc. A certain number of cases reported as lichen ruber acuminatus belonged really to the acute form of this disease. He did not believe in the existence of a lichen scrofulosorum, but regarded the affection called by that name as nothing but a seborrhœa occurring in a scrofulous individual.

DR. HANS HEBRA, of Vienna, denied the identity of Devergie's pityriasis rubra pilaris and the lichen acuminatus of Hebra. The latter, he claimed, was a distinct disease, affecting the general system, accompanied by albuminuria, and terminating in death, while the former was a much less serious affair. Anatomically, also, the two affections differed. The

### LESION OF LICHEN ACUMINATUS

took its origin in the derma and extended toward the surface, but that of pityriasis pilaris travelled from the epidermis to the derma. In the former disease there are also lesions on the mucous membranes which are not present in the other affection. Finally, a characteristic feature of lichen acuminatus is the rapidity of its spread, involving, as it does sometimes, the entire body within a month, or even less time.

DR. BOECK, of Christiania, agreed with the previous speakers in believing these two affections to be distinct, and said that their non-identity was clearly shown by the appearance and characters of the lesions.

DR. UNNA, of Hamburg, also regarded the two affections as distinct, but there was some confusion in the minds of the speakers which he wished to remove. The affection described by Kaposi as lichen ruber acuminatus was by no means the same as that of Hebra. The latter is a trophoneurosis, and he would prefer to call it neurotic lichen. Kaposi's affection was the same, in his opinion, as that described by Devergie.

DR. SCHWIMMER, of Buda-Pesth, said there were two forms of lichen acuminatus, one mild (Wilson's), and one severe (Hebra's). Unna's assertion that lichen ruber acuminatus was a trophoneurosis was a pure assumption.

DR. LELOIR, of Lille, questioned whether it would not be better, as had been proposed by Hardy, to do away entirely with the lichen group, since the affections to which this term was applied differed so widely from each other.

DR. BESNIER, of Paris, thought the term lichen ought to be retained, and to be applied to the affection described by Wilson as lichen planus. It seemed to have been clearly shown by the discussion that the

### PITYRIASIS RUBRA PILARIS

of Devergie was distinct from lichen acuminatus; hence dermatologists should recognize the distinction in future. Under lichen he would recognize two forms—planus and acuminatus—and the latter might be again subdivided into several varieties. He could not accept Hebra's form, and believed that it had been confused with some other disease, for there was no practitioner living who had seen fourteen fatal cases of true lichen. The disease called lichen ruber by the Americans was the pityriasis ruber pilosa of the French. He thought further researches were necessary before it would be possible to determine the proper place of Unna's lichen acuminatus. Lichen scrofulosorum, so called, was not lichen at all, but was an acne, or some other form of skin disease occurring in a scrofulous individual.

DR. NEUMANN, of Vienna, demurred to this last statement, and maintained the existence of lichen scrofulosorum.

DR. DE AMICIS, of Naples, was a believer in the neuropathic nature of lichen.

Dr. Kaposi maintained that lichen scrofulosorum was a distinct disease. He also protested against the proposal to dismiss Hebra's lichen, for he regarded it as a type by itself.

Dr. Vidal, of Paris, advocated a wider use of the term lichen, and would have it embrace all papular affections, such as Wilson's lichen simplex, prurigo, strophulus, etc.

DISCUSSION ON PITYRIASIS RUBRA.

Dr. Pétrini, of Bucharest, in opening the discussion, said that he regarded primary, generalized exfoliating dermatitis, desquamative scarlatiniform erythema, and Hebra's pityriasis rubra as distinct affections. He had observed a case of the last named disease for a period of eight years, during all which time the character of the eruption did not change in the slightest degree. The cause of the furfuraceous desquamation, falling of the hair, etc., was to be found in the lesions of the arterioles, even producing obliteration of the vessels. The disease known as scarlatiniform erythema was quite rare. There was never any danger of confounding this with a drug eruption, for the latter never relapsed, unless upon renewed administration of the medicament. Exfoliative dermatitis is susceptible of cure, although this usually requires some time; it should not be mistaken for the acute form of Hebra's pityriasis rubra.

Dr. Brocq, of Paris, said that there were many affections of the skin characterized by a generalized redness, and more or less abundant desquamation. These have been described under various names, but for the most part under that of pityriasis rubra. Besnier has called them

ÉRYTHRODERMIES EXFOLIANTES.

These affections may be arranged under three heads with several subdivisions. In the first group are (1) pityriasis rubra pilaris (of Devergie), (2) pernicious lymphoderma (of Kaposi), and (3) the generalized red and desquamative eruptions of artificial origin. In the second group are, (1) the acute and generalized eruptions which occur not infrequently in the course of an eczema, of a psoriasis, or of a lichen planus, (2) Bazin's "herpétides exfoliatives." After all these have been disposed of there still remains a group to which the generic name of pityriasis rubra may be applied. This group comprises (1) desquamative scarlatiniform erythema, (2) exfoliative dermatitis, (3) chronic dermatitis, (4) chronic pityriasis rubra (of Hebra), and (5) subacute benign pityriasis rubra.

Dr. Crocker, of London, reported in full an interesting case of supposed pityriasis rubra, and gave a summary of twenty cases of the same affection.

Dr. Jamieson, of Edinburgh, said that pityriasis rubra of Hebra was but a stage of

GENERALIZED EXFOLIATIVE DERMATITIS.

This affection, which was often secondary to a pemphigus, eczema, lichen, or psoriasis, presented itself in two forms —one with small scales, the dry, and the other with large scales, the moist. He was not yet ready to express any decided opinion as to the relation between exfoliative dermatitis and scarlatiniform erythema.

Dr. Unna, of Hamburg, said that cases often had the appearance first of a psoriasis, and then later assumed that of Hebra's pityriasis rubra. Seborrhœic eczema might also terminate in the same way. If the disease were seen now for the first time, it might easily be taken for Hebra's pityriasis rubra. There is an intense, uniform, deep-red color with marked desquamation, and accompanied by a sensation of burning. The patient has repeated slight chills, loses strength and flesh, and finally dies. He thought that this secondary pityriasis was related to the pityriasis of Hebra, for both of them presented a characteristic sebaceous odor. Recurring desquamative erythema was, he held, merely a form of toxic dermatitis.

Dr. Schwimmer, of Buda-Pesth, said there were

TOO MANY DISEASES GROUPED UNDER THE NAME OF PITYRIASIS RUBRA.

Everyone knew that an eczema might take on the characters of dermatitis exfoliativa, but this was not pityriasis rubra as defined by Hebra. This term ought to be reserved for a specific affection, and should not be applied indiscriminately to every eczema or psoriasis which might assume a resemblance to it.

Dr. Vidal, of Paris, related a case which began as a seborrhœa of the scalp, face, and chest. The eruption, at first discrete, became gradually generalized, and had the peculiar sebaceous odor to which Unna had just referred. It then became scaly, the desquamative area increased in extent, an abundant sero-purulent secretion became established, and the patient finally died.

Dr. Kaposi, of Vienna, said that many diseases might resemble at times the one under consideration, but they were not it. One must have had a very large experience in dermatology to have convinced himself from personal observation that such a disease exists, and to be able to recognize it as a specific entity. In the first place, the disease is of rare occurrence, and in the second place, the diagnostic points are not easily distinguished. There are many forms of dermatitis, following an eczema or a psoriasis, associated with uterine or renal disease, caused by poisons or drugs, and the like, which may resemble this disease. In the true pityriasis rubra of Hebra the desquamation is fine, the skin preserves its suppleness, the redness and burning are present from the first and persist throughout, and the patient finally dies. If the patient recovered, that fact alone was sufficient to establish the incorrectness of the diagnosis.

Dr. Besnier, of Paris, in concluding the discussion, said that it was now established that there was but one form of pityriasis rubra, and that was the one which Hebra had described—a disease clearly distinct from the various forms of secondary exfoliating dermatitis. He wished, he said, to settle the question as to priority, which had been raised by certain dermatologists. It had been claimed that Devergie had preceded Hebra in his description of pityriasis rubra; but this was incorrect, for Devergie had evidently never seen the disease which Hebra called by that name.

DISCUSSION ON PEMPHIGUS AND THE COMPLEX OR MULTIFORM BULLOUS DERMATOSES.

Dr. Neumann, of Vienna, called attention to a variety of pemphigus which he had been the first to describe, and to which he had given the name pemphigus vegetans. At the onset of this disease the bullæ are of the size of lentils. These rupture, and from their site arise whitish elevations, which assume an irregular warty appearance, and become surrounded by a zone of minute bullæ. These excoriated surfaces secrete a foul-smelling fluid, and become covered with crusts. All parts of the body, even the mucous membranes, may be the seat of this eruption. When the buccal cavity is affected, the tongue becomes swollen, fissures occur in the mucous membrane, and the patient's sufferings are intense. After the acute stage is past, the tendency to verrucous growths diminishes, the skin becomes pigmented, and exfoliates in large sheets. The prognosis is grave. As to treatment, the continuous bath gives the best results. The diagnosis between this affection and syphilis is often difficult.

Dr. Crocker, of London, said that the description given by the last speaker fitted exactly a case recently under his own care. Hutchinson had reported some cases which seemed to be of this nature, and Duhring had also described a disease, under the name dermatitis herpetiformis, which he thought was the same as that of Neumann.

Dr. Brocq, of Paris, said that authors usually grouped all the various forms of multiform bullous dermatoses with pemphigus; but among these was one with character-

istics sufficiently pronounced to separate it from the rest and to warrant one in regarding it as a distinct morbid entity. This was the

DERMATITIS HERPETIFORMIS OF DUHRING.

It had four cardinal features which were met with in every case. These were: 1. Polymorphism of the lesions (erythema, vesicles, bullæ, etc.). 2. Painful phenomena (smarting, burning, itching). 3. Chronicity, the eruptions appearing in successive crops. 4. The good general condition of the patient, notwithstanding the intensity of the local lesions. Alongside of this affection, however, is a class of painful polymorphous dermatoses which resemble it in some points and differ from it in others. The speaker had made an attempt to classify these forms of dermatitis under four heads, viz., chronic, subacute, acute, and relapsing of pregnancy. In the chronic form the lesions were polymorphous and appeared in successive crops, their appearance often varying at different periods in the same individual. The subacute form permitted of two subdivisions, one characterized by successive attacks separated by intervals of complete rest, and the other occurring as a single attack made up of successive crops, almost always overlapping each other, and extending over a period of from twelve to eighteen months. In the typical form of this variety the lesions are polymorphous, but cases are occasionally observed in which there is but one kind of lesion, papulo-vesicles, papulo-pustules, or minute bullæ. In the acute form there may be but one attack, or several successive ones, but their intensity and duration are such as to warrant the designation of acute. The fourth form was the polymorphous painful relapsing dermatitis of pregnancy, or herpes gestationis. As its name indicated, it occurred only in pregnant women, either during the course of gestation or in the week immediately succeeding delivery. The speaker believed that this classification would be found useful in helping to bring some order out of the confusion that now existed in respect to this class of lesions.

DR. SCHWIMMER, of Budapest, said that the disease to which Duhring had given the name of dermatitis herpetiformis had formerly been known under various names, such as vesicular erythema, bullous erythema, hydroa, herpes iris, etc. He proposed to retain the names for those affections, such as bullous or vesicular erythema, which had already been well described, and to reserve the designation dermatitis herpetiformis for that disease which was characterized by successive crops of a generalized vesiculo-bullous, pruriginous lesion.

DR. BROCQ then read a letter from Dr. Duhring, who was detained by illness from being present, in which he described succinctly the four cardinal characteristics of the disease under question as follows: 1, Marked polymorphism of the eruption; 2, constant painful phenomena; 3, long duration of the eruption, varying from several months to ten or twenty years or more; 4, good general condition of the patient despite the intensity of the cutaneous eruption.

DR. KAPOSI denied that the affection described by Duhring was a disease *sui generis*. Duhring himself, he said, had taken away impetigo herpetiformis, which he had first included under dermatitis herpetiformis, after Brocq had pointed out that it was a distinct affection. In like manner, he believed, the other diseases thus bunched together would come to be recognized as separate entities, according as our methods of diagnosis were elaborated. He had examined the case which had been exhibited by Brocq as an example of the affection, and which had also been examined by Duhring a short time before, and he saw in it the symptoms of ordinary pemphigus—nothing more. The lesions of pemphigus were of a varied nature, and he saw no reason for making a further distinction and setting forth a new and distinct disease.

DR. UNNA agreed with Brocq, and believed that there did exist a disease of a distinct clinical type characterized by the four groups of symptoms just related, and which was the dermatitis herpetiformis of Duhring. But since

THIS AFFECTION INCLUDES ALL THE FORMS OF HYDROA

(simple, subacute, grave, hereditary, and of pregnancy), it might just as well be designated hydroa.

DR. SCHWIMMER thought Kaposi was wrong in trying to force all the bullous affections into the single group of pemphigus. Confusion reigned here, and it was necessary to infuse some order into this class of diseases.

DR. BROCQ, in summing up the argument in favor of the existence of Duhring's dermatitis, said that there certainly was a disease characterized by the four groups of symptoms which he had detailed, and it ought not to be confounded with pemphigus, nor with a number of other bullous affections. What name was given to this syndrome of symptoms was of minor importance; let it be called dermatitis herpetiformis after Duhring, or hydroa after Unna, the fact remained that it was a distinct disease. He himself preferred the designation, as being more descriptive, though rather long, of chronic, pruriginous, polymorphous dermatitis.

(To be continued.)

# Correspondence.

## THE ETIOLOGY OF RICKETS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: A letter from Dr. Robert Lee, of London, was published in a March number of THE MEDICAL RECORD. Dr. Lee states that he has the impression that rickets is a rare disease in the United States, and expresses a wish to learn the ideas of American physicians regarding the etiology of rickets. He is of the opinion that rickets is produced by any disease in infancy which interferes with respiration. In a late issue of THE MEDICAL RECORD another letter appears from the same gentleman, in which he expresses regret that there is a tendency (as shown by a paper upon rickets, by Dr. Irving M. Snow) to explain the views of others, and not to give the results of personal observation. He also denies that there is evidence to show that want of proper food is a cause of rickets, as it is common among the children of the wealthy classes of English society, whom he evidently supposes are properly nourished.

My paper upon rickets, read before the alumni of the Buffalo Medical College, was not written in answer to Dr. Lee's letter. Its object was to awaken the attention of physicians to the frequency of rickets in America. Thus I reported twenty-five cases found among fifty-eight children under three years, from asylum and dispensary service. I stated my belief that rickets is commonly due to unsuitable diet, chiefly to a deficiency in fat. Every physician knows that the correct proportion of fat is lacking in artificial farinaceous food, or in diluted cow's milk. Most rachitic children are hand-fed, or, if suckled, receive in addition some farinaceous food. These views of the causation of rickets are those of Dr. Cheadle, of London, a physician to the great Ormond Street Hospital for Sick Children, London. I endeavored to show that rickety children were excessively liable to pulmonary diseases and to disorders of the gastro-intestinal tracts, and that a bronchitis or an entero-colitis might often be regarded as an intercurrent malady in a rachitic child.

Many continental and English authorities were cited, who held that, with children dead of respiratory and diarrhœal diseases, the enfeebled muscular power and disordered digestive functions of rachitis were often the direct cause of the fatal issue.

Now, as rickets is not commonly recognized in its early stages in this country, the subject was treated at great length, and I thought best to quote from the writings of many eminent men. All of this Dr. Lee criticises, think-

ing the profession are sufficiently enlightened as to its symptomatology, and evidently wishing that American physicians may be able to prove that the precedent cause of rickets is in disordered respiratory organs.

Of 13 rickety children examined by me in orphan asylums, only 2 had ever suffered from any pulmonary disease. All of these were children who, at the time of examination, were under no medical care, but were feeble and backward in development. Among 11 cases of rickets seen at the Fitch Dispensary, in 6 there was no history or present symptom of bronchitis or other pulmonary disorder, while 5 either had suffered or were afflicted with bronchitis or pertussis. Another well-marked case of rickets in an infant aged eight months showed no history of bronchitis. It was suckled, and was also fed upon crackers (biscuit) soaked in cow's milk. The child suffered from colic and dyspepsia.

The farinaceous food was withdrawn, and a teaspoonful of cream given three times a day. The excessive sweating ceased, two teeth appeared in three weeks, and the child grew strong and active.

Thus I am unable to assist Dr. Lee in proving his theory, that bronchitis, pneumonia, etc., usually precede the development of rickets, and are to be regarded as the precedent cause. Every experienced physician must concede that a previously healthy child will often become rickety during the course of bronchitis or whooping-cough, yet there are many rachitic children who have never suffered from cough or bronchitis.

Dr. Lee's letter is most courteously worded, and if he succeeds in awakening in the United States an interest, either in the frequency or etiology of rickets, he will do the profession a lasting service.

IRVING M. SNOW, M.D.

371 PORTER AVENUE, BUFFALO.

## "THE PHYSICIAN SHOULD BE EITHER A CHRISTIAN OR A PHILOSOPHER."

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: When I read THE RECORD'S creed, "The physician should be either a Christian or a philosopher," I embraced it with devotion, and have, since then, chiefly looked to it for my medical gospel. And when, after your late editorial "On Continence and Syphilis," the *bizarre* announcements of Brown-Séquard were sprung upon an astonished world, I patiently awaited the usual virile criticisms of THE RECORD to purify and thoroughly sift these dogmas, which seemed the emanations of an intellect once great, but now in its decline.

But even Homer sometimes nods. It is presumed that no one will call these views "Christian;" as for being philosophic, let us take the statement of Brown-Séquard himself:

"It is known that well-organized men, especially from twenty to thirty-five years of age, who remain absolutely free from sexual intercourse, or any other causes of expenditure of seminal fluid, are in a state of excitement, giving them a great, though abnormal, physical and mental activity."

Now, if we accept this simple statement without regarding the word "abnormal" as *sub judice*—which, in the light of the teachings of Carpenter, the physiologist, Dr. S. D. Gross, Dr. William R. Gowers, Sir J. Paget, etc., we might fairly do—what father would not prefer for his son the supposed dangers of "abnormal physical and mental activity" to syphilis, gonorrhœa, spermatorrhœa, and—worst of all—an unscathed career of sensuality?

Brown-Séquard's teachings ignore the duty and necessity of self-restraint—at least they will be generally so interpreted—and hence, coming from one who speaks with authority, they are capable of doing great harm.

"Corruptio optimi pessima."

The involuntary surroundings of vast numbers of men for life, and of every man at certain periods, are such that nothing but continence can prevent loss of self-respect and the esteem of our fellow-men.

The fatal dogma that sexual intercourse is essential to health, and that an involuntary emission from the sexual organs, when within physiological limits, is noxious, is the chief capital of the hordes of medical vampires, and has ruined, and is still ruining, untold numbers of young men.

True, it is hard for a man who is a "good animal" to always control his sexual appetite; it seems no less true that no man is safe, either as to his own welfare or that of those who are near and dear to him until, by the aid of philosophy and religion, he has learned to climb up from his mere animal nature and take refuge from the illegitimate demands of passion in his moral and intellectual being.

Carpenter says: "It is a general law, which pertains alike to the vegetable and animal kingdoms, that the development of the individual and the reproduction of the species stand in an inverse ratio to each other."

To the legitimate application of the new treatment no one should object; but against encouraging mere sensualism, from which the world now chiefly suffers, I think every honorable physician should raise his voice and wield his pen.

Young men should be guided by the counsels of Carpenter, to keep their minds and bodies usefully employed, and they will think much less about their sexual organs; and let them not be alarmed if an involuntary emission occurs once in twelve or fourteen days, which seems just as physiological, and no more injurious, than the analogous flow from the female organs. These words are trite, but are necessary. It is every man's duty to learn this great lesson—to make obedient the beast within him—and, having learned it, to teach it to others; once thoroughly learned, "the yoke is easy and the burden is light."

Respectfully yours,

W. F. M.

[We have already expressed positive opinions on these points, agreeing with our correspondent.—ED.]

## GASEOUS ENEMATA FOR INTESTINAL OBSTRUCTION.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue of August 3d I see an article from Dr. Dewitt C. Rodenhurst, reporting "a case of intestinal obstruction" relieved by the use of gaseous enema. If you will refer to page 155, August 6, 1887, of THE RECORD, you will see a case reported by myself, in which I relieved a patient in the same way. Perhaps it is well enough to call your attention to that portion of Dr. Rodenhurst's article where he speaks of the method as introduced by Dr. Senn, of Milwaukee, Wis. I do not recollect having seen anywhere that Dr. Senn used the treatment for removal of obstructions of intestine, though I have within the past year seen where he used it for diagnosing intestinal perforations. Since I first used the method I have had occasion several times to use it again for intussusception of bowel and fecal obstruction, and have found it a valuable remedy, but not by any means invariably successful. There are several precautions to be used in administering the gas, such as care in not overdistending the bowel, and carefulness in using the best chemicals, and not to inject air instead of the gas, as I had the misfortune to do once, by omitting to turn the stopcock attached to the gas-bag.

In corresponding with you after my report of the case in August, 1887, you wrote, in speaking of the method, that it was as "old as the hills," which, in connection with the recent reports of Dr. Brown-Séquard's "Elixir of Youth," leads me to exclaim that "there is nothing new under the sun," for on the farms and plantations where sheep, hogs, and cattle were raised, the custom was at stated times to castrate the male animals, and many times

I have seen the negroes and other employees broil the excised testes on the fire-coals in the lots where the animals were kept, and partake of same with much relish and with many a jest as to its stimulating effect on the functions, particularly of the generative organs, and also as to its increasing their strength to split rails and lift the cotton-baskets. The primitive mode of cooking the dish was due to a delicacy in asking the female cooks to prepare food fit only for the "lords of creation."

Respectfully yours,

W. P. COPELAND, M.D.

EUFAULA, ALA.

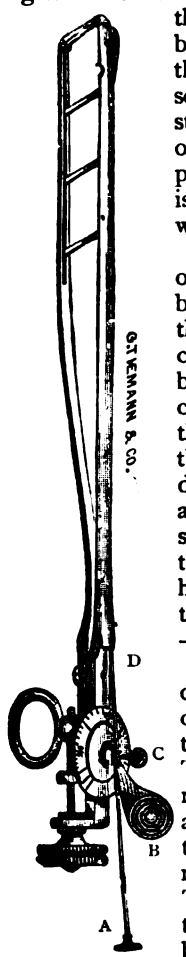
## New Instruments.

### AN IMPROVED URETHROTOME.

BY J. D. THOMAS, M.D.,

PROFESSOR OF GENITO-URINARY AND VENEREAL DISEASES, WESTERN PENNSYLVANIA MEDICAL COLLEGE, PITTSBURG.

ALTHOUGH the Otis urethrotome is recognized as possibly the best instrument presented to the profession for severing strictures of large calibre, it has, in my experience, three faults: First, that after the knife or blade is drawn forward and made to cut the stricture, it has to be pushed back; second, it must be readjusted for each stricture after the first is cut; and, third, owing to the fact that it opens on the principle of a parallel ruler, the adjustment is slightly altered after it is opened from what it was when first set for the stricture.




The first objection is the most serious one. Although it is intended, when the blade is pushed back, that it shall traverse the same line as was made by the forward cut, in practice it does not do so, but goes back along a *new* line; for the loose character of the tissues of the penis makes this unintentional cut unavoidable, and, as the distal end of the blade is somewhat dull, it makes in addition the cut a lacerated one. The second objection is not such a serious one, but the readjustment takes time and necessitates needless and hence injurious manipulation of the urethra. The third objection is a trivial one—but an objection, notwithstanding.

With my improvement, which is here displayed, these objections are all overcome. The rod A slides to and fro in the slot in the upper bar of the instrument. The blade B is slid forward on top of this rod, and when the instrument is closed and ready for introduction into the urethra, the blade is beyond the end of the rod, down in the slot, and out of the way. The urethrotome is then introduced to the bottom of the penile urethra—to the bulb—and opened, regardless of the location of the stricture or strictures. The seat of strictures having been previously located, the rod A is drawn forward until its extremity is at the point of deepest stricture, and fastened in place with the screw C; then the blade B is drawn forward, and when it arrives at the extremity of the rod A it rides up on this and cuts the stricture. The rod is now released and drawn forward to the seat of the next stricture, and again fixed with the thumb screw C. When the rod is drawn forward the blade always drops into the slot and is out of the way, so that it can be drawn forward, and when it arrives at the rod it rides up on it and cuts the next stricture. When there are more than two strictures the same process is gone through with until all strictures are cut—always cutting the deepest first.

It is not necessary to have any markings on the rod to indicate where the strictures are, for they can be located for the blade by deducting the distance from the meatus to the strictures from the length of the rod; *e.g.*, if a stricture is at five inches, the rod being eleven inches, six inches of the rod is left outside of the meatus, and when the blade is drawn forward it rises exactly where we want it to—at five inches.

The improved instrument has another advantage over the original Otis—when the blade and rod are removed it is easier cleaned.

When introducing the rod or blade into the instrument, if the thumb is placed at the point D, and a little pressure made, we utilize a knack that will facilitate materially the ease with which they slide in.

Having had some experience with the instrument, I find it works admirably.

To know that the blade has dropped into the slot it is only necessary to draw the proximal end of the rod one inch beyond the same end of the knife.

## Army News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from August 25 to August 31, 1889.*

TREMAINE, WILLIAM S., Major and Surgeon, now on sick leave of absence at Buffalo, N. Y., by direction of the acting Secretary of War will report in person to the commanding general of the Department of the Missouri for assignment to temporary duty at the post of Fort Leavenworth, Kan. Par 4, S. O. 198, A. G. O., August 20, 1889.

PORTER, JOSEPH Y., Captain and Assistant Surgeon. Resignation has been accepted by the President, to take effect, August 29, 1889. Par. 11, S. O. 200, Headquarters of the Army, A. G. O., August 29, 1889.

MATTHEWS, WASHINGTON, Captain and Assistant Surgeon. Promoted to be Surgeon with rank of Major, July 10, 1889, *vice* Town, promoted.

EWING, CHARLES B., Assistant Surgeon. July 5, 1889, promoted to be Assistant Surgeon with rank of Captain, after five years' service, in accordance with act of June 23, 1874.

MCCAW, WALTER D., Assistant Surgeon. August 20, 1889, promoted to be Assistant Surgeon with rank of Captain, after five years' service, in accordance with act of June 23, 1874.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending August 31, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 106 | 16 |
| Scarlet fever | 16 | 1 |
| Cerebro-spinal meningitis | 2 | 2 |
| Measles | 23 | 1 |
| Diphtheria | 80 | 23 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

RECENT STUDIES OF TWO HEART TONICS.—A series of experimental studies upon the physiological action of strophanthin has been recently made by Dr. Jacques Popper, of Vienna; certain clinical observations upon the therapeutic value of spartein have been made by

Dr. S. W. Lewaschen. The papers of both these gentlemen have recently appeared in the *Zeitschrift für klinische Medicin*, Bd. xvi., Hft. 1 and 2. Dr. Popper's first series of experiments was made in order to determine the influence of strophanthin upon arterial pressure. They resulted in showing a very constant and persistent increase of this tension. This rapidly reached its maximum and then gradually diminished, though it did not fall to normal. The pulse was at the same time slowed. Another series of experiments was made upon the blood-pressure in the veins, with most interesting results. They showed that the venous pressure became slightly diminished as a rule, while that of the arteries was increased. This phenomenon is explained by the fact that the smaller arteries are contracted and tense, shutting off some of the flow of blood into the capillaries and veins, while the larger arteries are dilated, tense, and full. The conditions are thus united to a rapid emptying of the veins into the heart. Experiments made to test the influence of strophanthin upon the pressure in the aorta and pulmonary artery showed that while the pressure in the former was increased that in the latter was either diminished or very little affected. The total result was to change the relations of the pressure in the aorta to that in the pulmonary artery from the normal of 5.9 to 1, to that of 8 to 1. Thus it is shown that strophanthin increases the tonus of the arterial system, but lessens absolutely or relatively that in the systemic veins and in the pulmonary circulation. A series of experiments were made in order to determine whether the increase of the blood-pressure was due to a stimulation of the vaso-constrictor nerves and contraction of the arterial walls. The observations showed that strophanthin does not act in this way, but rather that it causes increased blood-pressure mainly by over-distending the arteries. The action of strophanthin in slowing the heart-beat was shown to be in part at least due to stimulation of the vagus inhibitory apparatus. A clinical study of the action of spartein upon the circulatory apparatus is of more practical interest. Dr. S. W. Lewaschen, as the result of his experiments, comes to the following conclusions: Sulphate of spartein strengthens and regulates the heart-beat and slows it if it is too rapid. This action is accompanied with increase of blood-pressure, increased flow of urine, relief of œdema and dyspnœa. The diuretic action of spartein is only an indirect one, it has no specific action on the renal epithelium. Spartein is a less powerful heart tonic than digitalis, adonis, or strophanthus. This is shown by the fact that in very severe forms of cardiac degeneration and weakness spartein will not act, while the other drugs do. The tonic action of spartein, however, may last for several days after its use has been suspended. If spartein acts at all it acts rapidly, often within fifteen minutes after its administration. The rapidity of its action makes spartein a useful drug in cases of sudden heart failure where the organ is not seriously diseased, as, for example, in the acute fevers. The dose is from two to five grains daily.

Short-hand in Medical Study and Work.—A number of London physicians have started a movement for the encouragement of the study of short-hand by medical students or those professing to study medicine. A series of examinations are to be held in October, and prizes offered. A memorandum published in connection with this movement says: "The physician is aided in a special manner by the fulness of the notes of cases that can be taken. To him, in his effort to advance our knowledge of medicine, and to all who cultivate the sciences that rest on observation, short-hand is of peculiar value by increasing, at least threefold, the amount of recorded observation, recorded while the phenomena are in progress. The value of this increase, in fact, is scarcely to be measured. Short-hand must lessen the influence of imagination in science, by increasing the amount of influence of definite fact. In the observation of disease especially, in which so much has frequently to be recorded in a short time, the effect of its general use would soon be perceptible in the greater exactness and minuteness of our knowledge. Its influence extends, in the same manner, to the processes of comparison and collation of facts, and, indeed, to almost all the processes of work, up to actual composition for the press." Uniformity in the system of short-hand is thought most desirable, and Pitman's system is recommended as being the one used by ninty-five per cent. of short-hand writers. We have occasionally referred to the subject of the advisability of learning short-hand, and have uniformly discouraged any introduction of the practice. To learn it so that it will be really useful requires a great deal of time which might be better spent. The opportunities for its use after entering practice are not frequent. Long-hand notes answer every purpose of case-taking. If a person has a special taste and aptitude for it, however, or if he plans to use it in reporting or journalistic work, the case is different. We would add that in this country, so far as we know, Munson's system is nearly as popular as Pitman's, of which it is, however, only a modification.

Potatoes as a Substitute for Laparotomy.—At a meeting of the Imperial Society of Physicians in Vienna, Dr. Salzer reported a communication from Dr. Cameron, of Glasgow, upon the "potato cure" first recommended by the Scotch observer. Dr. Cameron has used this plan of treatment in several cases of ingestion of large foreign bodies with gratifying success. Salzer has also had an opportunity to try the potato cure in the case of a boy who had swallowed a brass weight of twenty grammes. Potatoes were fed to the child, cooked in a variety of manners, so as to encourage his appetite. He took them willingly. After five days the brass weight was compelled to retreat, overwhelmed by the constant accessions of reenforcements from above, and passed out, leaving the potatoes in possession of the field. In the same manner he treated the ingestion of a set of artificial teeth, while in another case a scarf-pin proved no match for its farinaceous antagonist. Dr. Salzer believes that this form of treatment will subserve a useful purpose in many cases in which, up to now, gastrotomy appeared to be the only form of relief available. He also advised the members to place no trust in sauer-kraut, which has been recommended for the same purpose. Dr. Hochenegg related the case of a boy who had swallowed a nail 6 ctm. long, in 1884, and had been treated by gastrotomy. He had swallowed a similar nail two years later, when the potato cure had proved successful. Dr. Billroth spoke of the difficulty which exists in the removal of foreign bodies by laparotomy, and was strongly in favor of the potato cure. —*International Journal of Surgery.*

A Substitute for Ichthyol is said to have been found in thiol, a synthetically formed substance (*Notes on New Remedies*). The latter is prepared in two forms, liquid thiol, a forty per cent. solution, and dried thiol, obtained by carefully evaporating liquid thiol. Its odor is slightly bituminous, and its taste bitter and astringent. Like most of the new remedies produced in Germany, it is a patented preparation.

Hard to Please.—*Indignant Physician:* Man, what have you done? You sent my patient the wrong prescription, and it killed him. *Druggist* (a calm man, accustomed to abuse): Vell, vhat vas der madder mit you? Last veek I send your odder patient der righd berscription, and dot killed him. How can somebody blease sooch a man?

A Strange Industry.—Two companies exist in one of the German cities, whose special business it is to manufacture machinery and all the appurtenances for making artificial unground coffee—pure Java in the berry. A roasted meal of some kind, made cohesive with dextrine and pressed in moulds, and afterward polished, is how it is done. The artificial coffee is said to be a very good imitation, and when mixed with the real article is not easily picked out as false.—*The Sanitary Inspector.*

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

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## Original Articles.

### CHOLECYSTOTOMY.[1]

BY NEIL MACPHATTER, M.D.,

CLEVELAND, O.

THE operation of cholecystotomy is not a new one. Like many others it was described and anticipated by several of the old surgeons. In looking up its history I find that in the year 1618 it was performed by Johannes Fabricius, who removed several gall-stones from the gall-bladder. Later on Fabricius Haldiaus is thought to have performed it. But it was not until the time of that very clever surgeon, Petit, that the operation of cutting into the gall-bladder and removing gall-stones was first established upon anything like a scientific and surgical basis. I read that this excellent surgeon described the tumors of the gall-bladder, and the symptoms accompanying them, as well as the operative proceedings, with so much accuracy that his details could almost now be accepted. The ability of Petit was not, however, recognized at the time; but, upon the contrary, his teachings upon this subject met with almost universal condemnation. From this time until a few years ago little or no advancement was made, although several surgeons wrote upon the subject, among them being Sharp, Brimfield, Chopart, Morgagni, Haller, and others. Sebastian endeavored to establish an operation whereby the peritoneum and gall-bladder were made to become adherent before the incision into the gall-bladder was attempted. Thudichum secured the gall-bladder to the abdominal wound by sutures several days before cutting into it. Bobbs, of Indianapolis, closed the incision in the bladder by sewing it up and afterward suturing the abdominal incision. This was the condition of this operation when Lawson Tait took it up and established it upon a firm and satisfactory basis, having had fifty-two operations with but two deaths, one of which cannot properly be attributable to the operation itself, but rather to the extreme condition to which the patient was reduced at the time of operation.

The experiments made upon animals, and other investigations that have from time to time been carried out, fail to give us a proper idea of the function of the gall-bladder. We are as yet groping in profound ignorance on this point. The theory up to now advanced, that it is a store-room for bile, cannot longer be accepted. A more plausible one is that it secretes a mucous fluid which mingles with the bile as it passes down the duct and renders its passage more easy. Occasionally a small quantity of bile is found in the gall-bladder, but this does not take away from the argument. This may be accounted for by some temporary occlusion in the common duct which would cause the bile to flow backward through the cystic duct into the bladder.

For many years the profession have been investigating the origin and cause of gall-stones. The theory advanced many years ago by Dr. Thudichum, that they arise from deposits of cholesterin, which form about the minute ramifications of the smaller ducts, is the one now generally accepted. Whatever be their cause, gall-stones do not always form in the gall-bladder, as is almost universally believed, but in the liver substance itself. They there frequently give rise to suppuration and abscesses of large size. The samples which I now hand you in this bottle were taken out of the liver tissue. It was necessary to cut through the liver structure to the depth of over an inch before they could be reached. I believe they almost always have their origin in the liver, and pass down the hepatic and cystic ducts to the bladder, where they further develop and multiply. It is after they have accumulated in the gall-bladder, and there give rise to serious symptoms that the great bulk of cases attract attention and call for surgical relief. According to the theory and teachings of Lawson Tait there are two varieties of gall-stones. These two varieties differ in their history, symptoms, pathology, and treatment; they are the solitary variety, when usually not more than one or two stones of large size will be present, and the multiple variety, when a large number of small stones of almost uniform size will be found. Many hundreds are sometimes present, and from pressing and rubbing against one another their surfaces become faceted in a characteristic manner.

The large variety of stone has a distinct and characteristic history, and a different line of symptoms, as compared with the numerous kind. It is almost invariably of large size, and grows very much like a urinary calculus. It may remain for an indefinite length of time in the gall-bladder without giving rise to any symptoms whatever, or even suspicion of its being present there. It usually makes its presence known by suddenly becoming lodged in the beginning of the cystic duct. From that moment, by completely occluding the duct, the bile cannot enter the gall-bladder. The mucous fluid goes on developing until it completely fills the bladder. When the stone becomes lodged it cannot pass down the duct, owing to its large size. It therefore becomes impacted there, and may lead to ulceration and suppuration, and may liberate itself in one of the two following ways, either by setting up an adhesion with some part of the intestine and establishing a fistulous opening, or the fundus becoming attached to the abdominal parietes and suppurating in an outward direction. Many large stones have been known to pass out in this manner. While this stone is lodged in the duct the mucous secretion goes on increasing from day to day, and gradually distends the bladder until it is sometimes enlarged to an enormous extent. The operation, when this distention is present, is much easier than when the bladder is only of normal size, although a great difficulty may arise in removing the impacted stone. It may be necessary to chip it away in pieces, as I shall show when discussing the treatment. The distinct characteristic of this variety is the distention of the gall-bladder by means of mucous fluid; so great does this enlargement sometimes become as to make its diagnosis from other cystic tumors, especially cystic enlargement of the right kidney, difficult indeed.

Clinically the multiple variety differs in its symptoms and treatment from the solitary kind. Lawson Tait maintains that they differ also in their pathology. I do not care to have my opinion taken in preference to that of my distinguished teacher, as he seldom gives expression to an opinion without substantial grounds; yet I cannot help thinking that there is no difference pathologically between these two varieties. Whether my view on this subject be correct, the two varieties, to my mind, are but modifications of the same cause. It is well known, as I

[1] Read before the Ontario Medical Association, June 6, 1889.

have already stated, that gall-stones form in the liver tissue itself. As a small stone passes down the ducts into the bladder and there develops, the tendency is that its coats chip off into small fragments which act as the nuclei for others. In this way these stones may go on developing and forming until a very large number be present. Now, if from some cause or other the original or parent stone does not chip its coats or break up into fragments to form nuclei, but goes on individually developing, the solitary variety, with its peculiar characteristic symptoms, will be the result. An important matter that would seem to bear this argument out is that the nucleus of the multiple variety is altogether different from that of the solitary, which usually cannot be found. The gall-bladder is seldom or never much enlarged in cases where patients are suffering from multiple stones. The reason of this is that they are nearly all sufficiently small to pass down the cystic duct. Their uniformly small size is such as to facilitate this. They are not lodged long in the cystic, and on account of the common duct being shorter and wider, it consequently follows that a stone that can pass down the cystic will, with greater ease and speed, pass through the common duct. It is for this reason that we seldom find jaundice as an accompanying symptom of gall-stones. Jaundice can only take place while the stone is passing through the common duct, and as it is wider than the cystic the stone is not lodged in it sufficiently long to give rise to this symptom. The symptoms accompanying the presence of gall-stones are not constant, and may be quite irregular. A large stone or a number of small stones may be present, and yet give rise to no symptoms. Usually, however, there will be a history of the patient having had biliary colic, with its characteristic paroxysmal pains. The stones may set up inflammation and suppuration, or may become impacted or wedged in the cystic duct. They have been known to ulcerate through the bladder and set up fatal peritonitis. When the impaction takes place in the cystic duct the changes and symptoms will be of a local character. When the hepatic or common duct is obstructed there will be present symptoms of jaundice, and should this obstruction continue for any length of time, general cholæmia will set in and reduce the patient's chances in an operation very materially. Frequently an enlargement below the margin of the liver will be quite readily detected. The amount of enlargement that may be present varies from the size of your fist to a large cystic tumor, that may be mistaken for cystic enlargement of the right kidney. It has before now been mistaken for ovarian cyst. In all cases this enlargement will have its commencement in the region of the gall-bladder. Very frequently a rigid rectus muscle simulates the symptoms of commencing enlargement of a gall-bladder, and I would warn my readers to guard against this point.

I cannot agree with the statement of J. W. Taylor, that the line of enlargement is usually in a diagonal line from the fundus of the bladder to the umbilicus. I have never yet witnessed this, but have invariably found, when the enlargement is present, it is about two inches to the right of the umbilicus, and immediately below the normal situation of the bladder. The shape of this enlargement will be round or pyriform, and will give a dull note on percussion. In diagnosing, care is required to distinguish between cystic enlargement of the right kidney, hydatids, and malignant disease of the liver. The peculiar condition of a gall-bladder being quite distended one day, and upon examination a day or two following regaining its normal size, may be owing to temporary occlusion while a stone is passing through the cystic duct.

The operation for the relief of these conditions differs somewhat in some of the details. In the solitary variety, as I have already stated, the gall-bladder is usually distended, and the diagnosis is more certain. In the multiple variety the bladder will be of normal size, more difficult to find, and does not require to be emptied as the other. The usual preliminary precautions are as essential in the operation of cholecystotomy as in any other abdominal section. Therefore strict cleanliness of patient, instrument, and surroundings is absolutely called for. The patient is put in the ordinary position, as for ovariotomy, and the anæsthetic given. When the enlargement of the gall-bladder is so great as to be readily felt, the proper incision is that directly over the tumor, vertically downward. When no enlargement can be made out, the incision should begin over the situation of the fundus of the gall-bladder. This is found directly beneath the tip of the cartilage of the tenth rib. The various textures are now cut through rapidly, until the peritoneum is reached. If any hemorrhage be present, it is arrested by sponges or forceps. Layer after layer is next held up between two pair of forceps, and gently divided, until an opening into the peritoneum sufficient to admit the tip of one finger is made. An exploration is now instituted. If the gall-bladder is enlarged, and especially if cystic, little or no difficulty will be experienced in finding it. When it is of normal size it is sometimes difficult and almost impossible to find. The subsequent steps of the operation are much easier when the bladder is distended. Generally the finger comes in contact with it immediately beneath the opening. A curved trocar is now inserted and the fluid drawn off. By this means the bladder can be drawn out through the opening sufficiently far for the subsequent steps of the operation. With a small scalpel the opening into the bladder is made, beginning at the side of the trocar. A flat sponge is placed below and around the bladder, for the double purpose of keeping back the intestine and absorbing any fluid or bile that may chance to fall downward. The opening thus made is now held apart with forceps by an assistant, and it is absolutely necessary that the assistant should be competent to fulfil this most important and particular duty. Indeed, it is as essential here that the assistant should be familiar with his duties, and anticipate the wishes of the operator, as it is for the surgeon to know how to operate. Ill-judgment or undue haste may be the means of disastrous results.

With the scoop or alligator forceps the stones can be readily removed. When one is lodged in the cystic or common duct, the operation becomes prolonged and much more serious. This complication may call out the ingenuity of the surgeon to the utmost. If lodged in the beginning of the cystic duct, it may be necessary to chip it away in pieces. When in the common duct, Tait's plan of crushing it with muffled forceps may be tried.

When the stones are all removed the opening in the bladder is to be stitched to the abdominal incision. The sponge that has been left in the wound must first be removed, and everything around the incision made perfectly clean. Independent or continuous sutures may be used, according to the inclination of the operator. If the continuous method be adopted, one thread will be all that is necessary; the needle, threaded with No. 2 Chinese twist, being passed each time through cyst-wall, peritoneum, parietes, and skin. When the whole circuit of suturing is completed, the two ends of the thread are drawn tightly and tied together. The next step in the operation is the introduction of a rubber tube. Rubber is preferable to glass for this particular operation, as it better adapts itself to the respiratory movements of the parts. It should be fixed in position with a thread. The only dressing required is absorbent cotton wool, which may be changed as required. As soon as union between the wall of the gall-bladder and the abdominal incision has taken place, the stitches can be removed. The drainage-tube may be left in longer if required. Usually a biliary fistula is left, which generally heals up in the course of a few weeks. Occasionally the fistula continues, and may require an operation to permanently close it.

This operation is one of the many recent triumphs of surgery, and it is remarkable and gratifying to find patients who have been reduced to the lowest possible condition of health gain rapidly in condition in the course of a few weeks.

## NOTES ON EXALGINE.

By FREDERICK PETERSON, M.D.,

LECTURER ON NERVOUS AND MENTAL DISEASE AT THE NEW YORK POLYCLINIC.

At a meeting of the French Academy of Sciences, March 18, 1889, Drs. Dujardin-Beaumetz and G. Bardet presented a report upon the physiological and therapeutic action of orthomethylacetanilide (*Gazette des Hôpitaux*, April, 1889), a derivative of benzine, to which the name exalgine was given by Brigonet, the chemist who prepared it. It is very soluble in water containing a little alcohol, somewhat so in warm water, but only slightly in cold water. They found it to act very energetically upon the cerebro-spinal axis in animals, giving rise to phenomena of impulsion, tremor, and paralysis of the respiratory muscles. In non-toxic doses sensibility to pain disappeared, but that to touch persisted; and a gradual but notable fall of temperature took place. Compared to antipyrin, there is a considerable similarity, but the effect of exalgine upon sensibility is more marked, and upon the thermogenic centres less marked, than that of the former. In therapeutic use exalgine gave rise to no rash, cyanosis, or gastro-intestinal irritation, such as have been noted in the employment of antipyrin and acetanilide; in one case only was there slight erythema. They treated all forms of neuralgia with the new remedy, doses of twenty-five to forty centigrammes being required for the analgesic effects. The drug is eliminated by the urine. It modifies the urinary secretion, and in diabetic polyuria diminishes the daily amount of urine and the quantity of sugar. Compared to antipyrin it seems to produce greater effects as an analgesic in half the doses, according to these authors. It has also to some degree antiseptic properties.

I have been testing the efficacy of the drug on private patients, and on patients at the Polyclinic and Vanderbilt clinics, as appropriate cases presented themselves, during the last seven weeks. I have used it in the form of pills containing two grains each, and in the form of a cordial, each tablespoonful of which was equivalent to two and one-half grains of the drug (both forms prepared by McKesson & Robbins). Notes in some of the cases are here appended:

Case I.—A. S——, female, aged twenty-four, suffering from trigeminal neuralgia, upper two branches, and extending also over occipital region, several years' duration. It is proper to say that many remedies had been tried unavailingly. Two grains of exalgine was ordered every three hours. She took nine doses without any relief of pain, drowsiness, or apparently any effect. Aconitia and quinine prescribed since have also failed to secure relief.

Case II.—K. G——, female, aged nineteen, for a week or so had had cephalalgia, neuralgic in character, over the whole of the right side of the head. She could not sleep on account of the pain, and, as she expressed it, "was driven nearly crazy." There was good reason for suspecting the case to be malarial, and quinine was administered for some ten days, five grains three times daily, without, however, any effect. She was then ordered exalgine pills, āā gr. ij. every four hours. She took but four doses, and reported complete cure.

Case III.—A. W——, female, aged fifty, a paranoiac, troubled excessively by paræsthesiæ over the whole body, which gave rise to the delusion that electricity was being used upon her continually by her persecutors. Sleepless much of the time because of these shooting pains and prickling sensations. For two nights she took exalgine, one dose only of two grains each night, and slept soundly, the pains not recurring until morning

Case IV.—S. H. B——, male, aged fifty-two, supra-orbital neuralgia for three months. Pain much diminished by exalgine, gr. ij. every four to six hours.

Case V.—S. D——, female, aged thirty-six, occipital neuralgia for two months past, of probable malarial origin. Twenty grains of quinine daily for three days produced no effect. Exalgine was ordered in two-grain doses every four hours for several days. Patient stated that she felt a sort of drowsiness, but the pain was not diminished in the least.

Case VI.—J. D——, male, aged sixty, occipital and supra-orbital neuralgia of some weeks' duration. Was treated with quinine and apparently cured. The pain returned, however, in three days, and quinine was employed again without effect. Antifebrin was then used, and also failed to relieve the pain. Exalgine was then given in two-grain doses every four hours, and effectually banished the pain for some days. On its subsequent return exalgine proved of no service, except to permit him to sleep at night, although given in the same doses every two hours. He complained of a singular feeling of numbness all through his body after the use of the drug.

Case VII.—M. M——, female, aged thirty-five, morphine habit for three years, taken for a pain in the side. The original cause of the pain was a fall several stories down an elevator shaft. The daily amount of morphine taken for the pain is small, seldom more than three grains. The disease seems now to be a morphine neuralgia. Exalgine pills were substituted for several days, two grains every two or four hours. While she acknowledged some relief of pain, other disagreeable effects were produced—drowsiness, nausea, dilated pupils, and diarrhœa; previously there had been myosis and constipation. It is probable that the pupils appeared dilated, merely because of the relaxation of the iris from the cutting off of morphine. Patient felt compelled to return to her favorite habit, and as any quantity of morphine she may desire is provided for her by an indulgent mother, there was no obstacle to her so doing.

Case VIII.—M. A——, female, aged sixty, brachial neuritis. There was first a severe brachial neuralgia, with a herpetic eruption over the whole extent of the median nerve. After recovery of the herpes, there was intense pain and tenderness along whole arm, particularly about fingers and wrist, and with trophic changes in the skin and muscles of those parts especially. For the amelioration of the pain exalgine was given first in pill form, later in the form of the cordial exalginque, in doses of some two grains each, every four to six hours. The effect has been excellent. The cordial seems the better form for administration in this case, and has been relied upon for three weeks as an analgesic. No ill results have followed its use.

In addition to these eight cases, of which notes are given, exalgine was given experimentally in some twelve cases of various forms of cephalalgia, in the two grain doses several hours apart, and with benefit in about fifty per cent. The doses, as is evident, have been minimal, and where the analgesic quality of the remedy has not manifested itself, it is probable that double or triple quantities at one dose would have proven efficacious. Upon the whole no bad effects were produced, except, possibly, some in the case of morphine habit, and in certain of my cases it was a decidedly useful medicament. The doses employed by the French physicians who introduced the remedy were, as has been stated, from four to six grains, and from my experience I should in most cases begin with four-grain doses every two to four hours. With smaller doses the analgesic effect may be uncertain in its development.

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The Owner of Hunyadi Janos.—David Andreas Saxlehener, owner of the Hunyadi Janos, who died recently, was an uneducated but sharp-witted man. He was in the clothing business at Budapest, when a peasantre marked in his store that he had very bad luck in boring wells for water on his farm, getting only an ill-smelling liquid that he feared to use. Saxlehener procured a sample of the water, had it analyzed, bought the peasant's farm, and became many times a millionnaire through the sale of the water.—*Medical and Surgical Reporter.*

## UTERINE HEMORRHAGE AND LIGATION OF THE UTERINE VESSELS AS A THERAPEUTIC EXPEDIENT.

By JOHN A. MILLER, M.D.,

SALT LAKE CITY, UTAH.

Ligation of the uterine vessels for uncontrollable hemorrhage, I believe, originated with the late Carl Schroeder, of Berlin, accompanying or preceding his "high amputation of the uterine cervix;" at all events, I had never heard of this surgical expedient before, nor have I seen it referred to since in any of the medicals journals which chanced to come into my hands. It was in 1884, when I was a student in the Martin Clinic, that I witnessed Dr. Martin precede his operation for the vaginal extirpation of the uterus with a ligation of the uterine vessels, and that he often removed the uterus without the loss of more than half an ounce of blood was one of the most striking features of his method of operating. In our country this surgical resort is very little known, or at least noticed or practised. Only a few weeks ago an estimable lady, and mother of several children, bled to death, because the hemorrhage from the uterus was beyond the control of those remedies which are ordinarily employed in such cases. In this case the bleeding was the result of an artificially induced abortion, which had been decided upon by her medical advisers to check obstinate vomiting.

I can simply say that I have resorted to this surgical expedient on three different occasions, where all else had failed, and the results were immediate and all that could be wished for; and, had I not passed a ligature through the lateral aspect of the fornix of the vagina, high up and into the uterine tissue, the patients would all have died.

Uterine hemorrhage is a relative term; to uterine diseases it bears about the same significance as a cough does to pulmonary affections. Hemorrhage of the uterus depends on so many diversified pathological processes that one cannot have an intelligent idea of the remedial resource in a given case until a thorough examination clears up the relation of cause and effect; so it is not my purpose to enter into the etiology, but to outline a surgical expedient which never can fail to arrest hemorrhage, no matter what the cause, in the unimpregnated uterus.

To make the subject thoroughly understood, I have compiled the anatomy of the blood-supply of the uterus in as few words as possible.

The arteries supplying the uterus, beginning from the fundus down to the cervix, would be, first, the ovarian arteries; as these and the others are double, I can limit myself to the description of one side. The ovarian artery arises from the aorta, and when it arrives at the pelvic brim it passes inward between the two layers of peritoneum, forming the broad ligament. The artery passes beneath, on a lower plane than the Fallopian tubes and ovaries, so that the small branches which supply the tubes and ovaries from the ovarian run directly upward, while the main ovarian, according to Hyrtel, runs tortuously toward the upper angle of the womb, and there divides into two branches, of which the upper supplies the fundus, and the lower branch anastomoses at the side of the womb, near the isthmus, with the uterine artery, which is larger in calibre than the ovarian and arises from the internal iliac. This artery passes inward to the neck of the womb; here it ascends in a tortuous manner on the side of the organ, and distributes small branches (the curling arteries of the uterus) to the substance of the organ. Near the isthmus there is a special branch of the uterine, which joins its fellow of the opposite side, forming the circular artery.

Now it will be interesting to notice that the indirect blood-supply to the uterus, when the former branches are ligated, must come from the vaginal arteries, which, anastomosing, form the azygos vaginæ, and that running up joins the circular artery of the uterine. If we keep this simple and clear picture of the blood-supply of the uterus in our mind, we can at once see how easy and practicable it is to cut off entirely the arterial supply of the womb. This is virtually done by Dr. Martin in the preliminary steps to the vaginal extirpation of the uterus, and the result is invariably as above stated—no hemorrhage.

The ligation of the uterine vessels is neither difficult to perform nor dangerous to the patient if ordinary skill and care are employed.

The first step in the operation is to thoroughly disinfect the vaginal canal by using a large quantity—two or three gallons—of carbolized warm water of a two and one-half per cent. solution.

The patient is then placed in the perineal lithotomy position, and, by means of a bullet-forceps or some similar instrument hooked into the vaginal portion of the cervix, the womb is pulled down to the vulva. A Simon's or Sims' speculum is used to open up and retract the posterior commissure of the parts, while the assistants, who are supporting the legs of the patient, by means of blunt retractors retract the labia majora et minora; this latter retraction is not always necessary. To an assistant is also intrusted the bullet-forceps, and he at the same time deflects the organ to the side opposite to that on which you are about to pass the ligature. This will give full scope for manipulation. With the index-finger the operator now locates the body of the uterus, which it is intended to include, or at least so much of it as will assure the certainty that nothing but broad ligament and uterine tissue is insnared in the ligature, for it would not be desirable to include the Fallopian tube, and decidedly dangerous to stretch the intestines. From what has been said on the distribution of the blood-vessels, it is obvious that it is not necessary to carry the ligature too high up or too far outward from the body of the womb to insnare the vessels, and, by keeping close to the body of the uterus, and not going higher than the upper end of the middle third of the body, there is absolutely no danger of wounding the intestines.

A strong curved needle, one and three-quarters of an inch long, is armed with a strong double ligature; the left index-finger supports the tissues and the uterus, while with the right hand the needle is passed near the cervix, in front and toward its side, through the fornix of the vagina, from before upward, backward, and downward, and out through the fornix again, near its point of entrance. This is then tied, and the other side is proceeded with in a similar manner. After twenty-four hours both ligatures may generally be removed, there being no further danger from hemorrhage.

I will mention here that curved needles are not passed by straight or direct pressure, it requires a curved or circularly directed force, otherwise the needles will break. A little practice with a curved needle on a piece of leather will impart the necessary proficiency. To practise on the patient is too late, and may result in failure.

In conclusion, I would like to suggest the ligation of the uterine vessels for the cure of pathological processes of a hypertrophic and inflammatory nature.

Heretofore great benefit has been derived from local depletory measures like glycerine tampons, scarifications, and hot irrigations; the results would be astonishing in some instances where the disease is too obstinate to yield to mild measures. The congestion and swelling of the uterus, incident to flexions, would also come under this head, especially those cases where reposition of the organ is made impossible from inflammatory adhesions. An enlarged uterus might in that way be starved into smaller proportions.

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The Fifth International Congress of Otology will be held in Florence in 1892. The following subjects for discussion are already announced: 1. The "Pathological Anatomy of Inflammation of the Middle Ear." 2. "The Diagnosis of Cerebral Abscess caused by Ear Disease." 3. "General Therapeutics of Ear Diseases."

## THE USE OF THE TAMPON IN PREGNANCY.[1]

By GEORGE H. NOBLE, M.D.,
ATLANTA, GA.

Mr. President and Gentlemen: This little paper is presented to you with the hope that in it you will find something of value to the practical man, as it treats of a subject that has engaged a part of my attention for the past eight years. During that time this treatment has been applied to a number of cases, and demonstrated fully to my mind the value of the method.

I desire more especially to call your attention to the mode of treating old lacerations in the pregnant uterus; but, first, shall briefly mention some other conditions in which it may be used with benefit.

My first applications of glycerine on cotton or wool, for profuse and irritating vaginal discharges in pregnancy, were made in 1881. In this way many troublesome and almost intractable cases were relieved, especially when due to turgescence of the pelvic blood-vessels. The remedies usually associated with it are palliatives or neutralizers of the secretions.

Following close upon this, it was employed in some instances of nausea and vomiting with very satisfactory results. I was led to its use by the observation that in some vascular disturbances of the pelvis reflex phenomena were more pronounced and distressing. This (unlike Graily Hewitt) was attributed to the engorgement, and not directly to flexions and versions. However, I endeavored not only to relieve the engorgement, but also to correct the displacement; as the relief of the former without the latter was irrational and disappointing, though occasionally it afforded some temporary relief with the uterus in an abnormal position.

Its specific action I was unable to explain; but since invoking the aid of Bretonneau's theory I have assumed that it augments the stretching of the uterine fibre by distention of the blood-vessels. Barnes anticipates me when he says that "the immediate irritating cause we believe to be due to stretching of the uterine fibre under the excentric pressure of the growing ovum, and to turgescence of the uterine vessels. This turgescence receives a sudden increment under the hydraulic pressure which takes place on assuming the erect posture."

Granting, then, that turgescence of the uterine blood-vessels is an important etiological factor, the glycerine dressing, through its detergent action and support afforded the pelvic viscera, becomes a remedy most likely to meet the demands of the treatment indicated. The combined effect of the glycerine and the pressure promotes softening of the cervix, thus enabling that portion of the uterus, so susceptible to reflex neuroses, to stretch without demonstration of nervous phenomena.

The tampon can avail but little in retroflexions and retroversion of the gravid uterus, as it is far inferior to a well-fitting pessary, unless tenderness is sufficient to prohibit the use of the instrument. In this case the glycerine treatment should be employed to pave the way for the pessary.

If the displacement is complicated by impaction sufficient to render reduction impracticable, the glycerine may reduce the swelling sufficiently to permit replacement of the organ by carrying off the water in the engorged structures. Spiegelburg used it for this purpose, recommending frequent changes and the use of the T-bandage.

Impaction of the anteflexed uterus is so rare that some authors doubt its existence. Just here it may be well to mention that by impaction we do not mean a gravid uterus of development just large enough to well fill the pelvis, and requiring more or less skill in its reduction, but one that has become so jammed in the true pelvis that it is immovable without exerting force sufficient to endanger the safety of the ovum.

Impaction may, however, occur with the anteflexed uterus if there is contraction of the posterior ligaments by parametritis and anterior adhesions to the fundus, thus acutely anteflexing the uterus and fixing it in the anteverted position. In that case the development would be downward as well as upward, and it would most likely become impacted if gestation progressed far enough, or unless the adhesions give away.

A case of this kind presented herself to me with the uterus acutely anteflexed and anteverted. The cervix was drawn high up to the sacrum, while the fundus was engaged beneath the pubic arch. The impaction was extreme, and correction impracticable without relieving the swelling by the glycerine and light elastic pressure of the wool, which accomplished the desired results.

Other cases may be relieved in the same way, though they are apt to abort, or to be recognized before the development reaches that point where the swelling alone is sufficient to cause impaction.

Sacciform dilatation and hypertrophic elongation of the cervix in pregnancy may be treated by the tampon with a view of affording mechanical relief. Lusk recommends it in the latter disease.

For prolapsus of the pregnant uterus I know of nothing better. Here again the tampon has the indorsment of Lusk, Spiegelburg, and others. It must be continued until the uterus is large enough to remain above the pelvic brim, and should then be gradually diminished.

In prolapsus of the vagina the tar ointment, one drachm to one ounce of vaseline, is a most valuable remedy applied on a light tampon to the vaginal mucous membrane, avoiding contact with the cervix. It shrivels the mucous membrane equally as well as hot water, sometimes, I am inclined to think, better, as the corrugations from the tar seem to remain longer than those from the hot water, when the patient is placed in the knee-elbow position.

Dysuria from pressure is one of the most common troubles in pregnancy, and one of the easiest to relieve. Often a few small pledgets of cotton with glycerine or vaseline, under the base of the bladder, will give instant relief. It is not always necessary to take the weight off the uterus, for a simple support to the base of the bladder will often answer the purpose.

*The Tampon in Lacerations of the Cervix of the Pregnant Uterus.*—Perhaps there is no accident so common in labor as laceration of the cervix, and certainly none more prone to cause premature expulsion of the ovum in subsequent pregnancies.

The engorgement and swelling commonly found in laceration of the cervix are greatly intensified in the gravid uterus. The lips may swell until they virtually roll inside out, adding increase to the irritation and turgescence of the pelvic vessels. These symptoms, conjoined with the increased weight of the uterus and the softened condition of the neck, constitute some of the principal elements requiring consideration in the treatment. Swelling, eversion, granulations with a tendency to oozing of blood, and hemorrhages, are the most serious symptoms, for they are almost always accompanied by pain and uterine contractions. The vaginal portion may swell to more than three inches in diameter, or even half fill the vagina, the extent of which bears some proportionate relation to the gravity of the case, but not to the extent of the laceration. I have had the most aggravated symptoms with slight tears, and have observed trivial disturbances from deep ruptures. One of my cases, at the fourth month of gestation, had slight prolapsus, with the cervix so swelled and everted that it occupied at least half of the vagina. The finger passed without resistance directly into the patulous canal, until it came in contact with the membranes. The everted surface was raw and granular, and bled freely on slight friction with cotton. The laceration was unilateral, and apparently an inch and a half deep. Uterine contractions were frequent and forcible. Abortion seemed imminent, but she was safely carried to term and delivered of a living child. A pessary was applied before she was permitted to leave the bed, as is my custom with patients

[1] Read before the Medical Association of Georgia, April 19, 1889.

who have been subject to displacement. When the pessary was removed, six months afterward, I was very much astonished to find that the laceration, instead of being an inch and a half in length, was only a mere nick or fissure in the side of the os.

The sagging usually found in the non-pregnant uterus may become a prolapsus when pregnancy occurs, and render formidable a case that would ordinarily give but little discomfort. When associated with a slight tear it may cause more trouble than a rupture into the vaginal junction; but when coupled with the latter, it is apt to be a serious and delicate case to handle. Fortunately the latter class of cases is in the minority; though, if the true status of affairs was known, it would probably prove to be the cause of abortion in many cases that do not fall into the hands of the physicians.

The objects to be accomplished in the treatment are:

1st. Correction of the displacement, which straightens out the tortuous blood-vessels, and in this way relieves obstructions to the flow of the blood (Emmet).

2d. The relief of turgescence, which is accomplished by the detergent action of the glycerine.

3d. The support of the structures, which prevents recurrence of the trouble; and,

4th. Softening of the cervix, which permits stretching of the uterine fibre without nausea.

The application should be cautiously made, small pledgets of wool, often only a single one, well saturated with glycerine, should be applied and increased gradually from day to day, as the turgescence is relieved and tolerance established, until a quantity sufficient to correct the displacement or support the structures is employed. After the uterus is developed sufficiently large to remain above the true pelvis, the tampon should be reduced gradually in order to avoid discomfort, and to observe whether or not the vascular disturbances return. Some discoloration of the mucous membrane and distention of the vessels must be expected after the discontinuance of the dressings, as it is a physiological condition of pregnancy, and should be given consideration only when it goes beyond the border line and becomes pathological.

In that case a continuance of the treatment is indicated. If the secretions are very profuse, the tar ointment or dry tannic acid sprinkled in the lower part of the vagina will be of great service in preventing expulsion of the wool. Particularly is this useful in prolapsus and eversion of vagina.

If there be great tenderness, glycerine in large capsules has proven serviceable; but a better thing is the glycerine suppository. These are soft and less liable to act as foreign bodies. These I have used in several cases preparatory to the wool-dressings, introducing them into the vagina with the hips elevated, to prevent the escape of the glycerine. However, there are but few cases that will not bear the wool treatment from the start, unless it be those with a tendency to bleed from fungi, or granulations of the os. To the latter it is best to apply a thin layer of glycerine-soaked cotton, to protect it from the hard wool fibre, which will abrade or cut through the epithelium of delicate mucous membrane. To such cases the administration of iodide of potassium is serviceable, either in constitutional disease or in defective local nutrition.

If the symptoms are not serious nor the eversion extreme, they may be relieved in a few weeks or months; but if, upon the other hand, the symptoms are grave and the swelling and eversions very great, the treatment may have to be continued until the case approaches near the close of gestation. After shortening of the cervix has occurred (in the latter months of pregnancy) it is not so liable to become swelled and everted.

The longest time I have continued the treatment was five months, ending in the seventh month of gestation. This was in a delicate woman, who, before coming into my hands, had been subjected to numerous treatments for a number of years. She had chyluria, hemorrhoids, and other distressing symptoms. She was at the second month of pregnancy, with the cervix greatly swelled and everted, the os granular, the uterus slightly prolapsed, and the pelvic vessels distended. The treatment relieved all these, but had to be continued up to near the eighth month, as an interruption was always followed by an indication of relapse. The laceration was unilateral, and very slight in extent.

Another case, who had had one premature labor and one abortion, presented most alarming symptoms. The swelling of the cervix was enormous, it half filled the vagina. The os was raw and bleeding, the lacerations were unilateral, and apparently an inch and a half deep, and the uterus was prolapsed to the floor of the pelvis. Uterine contractions were frequent, and abortion seemed actually in progress. Yet she progressed favorably under the treatment, which had to be be continued until the end of the sixth month before it could be left off with safety. The entire weight of the uterus was sustained by the dressing until it was large enough to remain above the brim.

During the treatment of this case the patient was entirely free of pain as long as the dressing remained in the vagina, but as soon as it was expelled and the uterus allowed to come down, the uterine contractions would return and continue until a fresh dressing was applied.

Now I cannot impress upon you too strongly the distinction between this treatment and the tamponing commonly and imperfectly done in gynecology. It is not the hard packing used in the hemorrhages and other conditions, but, at first, a simple pledget of wool intended as a means of applying glycerine to the swelled and tender structures. Then, after it has accomplished some relief, it is carefully increased as the improvement will permit, until it has effected the desired results.

The pregnant uterus can be educated up to tolerance of foreign matter in contact with the vaginal portion, especially if it is to be the means of relieving symptoms or disease more dangerous than the foreign body itself. Taking this view of the matter, the glycerine dressing, when used with good judgment, is a safe[1] and valuable treatment, particularly for old lacerations in the pregnant uterus.

*Summary of Cases.*—Of sixteen retrodisplacements ten had retroflexions; the remaining six were simple versions. Four were treated primarily with glycerine dressings to pave the way for the pessary. Ten had pessaries applied at once—thus all eventually were replaced by pessaries.

Of the ten retroflexions eight had lacerations, one of which had been repaired, but hypermetropic elongation of the portio media remained. The uterus was very soft and flaccid, neither pessary nor cotton would keep it in place, so as a last resort a flat, elastic stem-pessary was employed with success. One was treated conjointly with vaginal pessary and small dressing, as the laceration caused such extensive eversion that the pessary alone would not answer the purpose.

Of twenty-two cases of profuse and irritating vaginal discharges eighteen had some displacement; seven, retroflexions, included in previous list; one, anteflexion; ten, prolapses in various degrees. Of the eighteen, six had lacerations. Of nineteen cases of laceration eight are included in the ten cases of retroflexion, and six in the list of profuse and irritating vaginal discharges. The remaining five were slight tears, with slight prolapses or sagging, more than is normally found in the early months of pregnancy.

Of the nineteen cases of laceration, fourteen had bilateral rupture, six of which extended into the vaginal junction; five of these has a history of repeated abortions. The lacerations in the remaining one occurred at the confinement of the preceding pregnancy.

One of the last five miscarried four weeks after discontinuing treatment, caused by ill-treatment from her husband. Three cases with slight lacerations presented alarming symptoms, but did not abort.

[1] In a series of thirty-three cases no unpleasant symptoms have appeared, except a sense of fulness when the dressing was carelessly applied to a non-displaced uterus.

## SEVERE CASE OF INSOLATION; HISTORY, TREATMENT, AND RECOVERY.

By R. ELLIS, M.D.,

PEEKSKILL, N. Y.

The patient, a large, muscular man of forty-two, employed in a sugar-house, felt indisposed the day before, but continued his work; and, despite the advice of his friends, persisted in going to work the next morning. He "felt bad all over," yet kept on working in a very hot room till, at 5 P.M., his fellow-workmen saw him fall forward on his chest against an iron sugar-receiver.

His clothing was loosened, and water was poured over his head until the arrival of the ambulance, which hastily brought him to the hospital.

I found the man unconscious, face pale, hot, and covered with profuse perspiration; respiration sighing and very weak; sphincters relaxed; pulse, 160; and temperature, by rectum, 109° F.

The patient, without being moved from bed, was stripped, a rubber blanket placed under him, and ice-water thrown from a height of four feet all over him; tr. digitalis, ℥ x., and whiskey, ℥ xx., were given hypodermically, and the pulse and temperature taken every few minutes. Great care was taken to disturb the patient as little as possible; the sphincters were so sensitive that the introduction of the thermometer was followed by loose, watery fæces.

5.30.—Pulse has responded very slightly to the stimulants; respirations still very feeble and sighing; temperature, 108.6° F.; occasional involuntary passage of fæces.

6.00.—Pulse, 140, very weak and compressible; temperature, 108.2° F.; convulsive stage beginning; face slightly turgid.

6.15.—Convulsive stage well marked; arms extended and raised straight above head; legs, fingers, and toes flexed; face very turgid; jaws tightly locked on piece of cork to prevent injury; no attempts made to restrain patient; loud sighing cry with every expiration.

6.30.—Pulse slightly better; temperature, 107° F.; legs and arms now extended; body so stiff that patient can be raised by heels and head; occasionally an opisthotonic spasm comes over patient, lasting but a few seconds, when body is rigidly extended again.

6.45.—Convulsive stage so severe that a hypodermic of morphia, gr. ¼, with atropine, gr. $\frac{1}{120}$, was given, which seemed to quiet patient greatly.

7.00.—Pulse, 120, feeble and occasionally intermitting; temperature, 106° F.; ice-water still continued, yet stopped occasionally and entire body rubbed briskly toward the heart with dry towels; tr. digitalis, ℥ x., hypodermically.

7.30.—Pulse slightly stronger; temperature, 105° F.; ice-water and rubbing continued, body being red from the rubbing; fæces still passed involuntarily.

8.00.—Temperature, 103.6° F.; pulse, 110; ice-water discontinued; patient's body dried and removed to adjacent dry bed, care being taken to keep body horizontal while being moved.

8.30.—Skin, though red, is still cold from effects of the ice-water; temperature, 103° F.; pulse, 90, with ten intermissions; convulsive stage not marked, yet attempts at flexion show body is still rigidly extended; eyes now open, with a look of intelligence; does not answer questions.

9.00.—Temperature, 103.4° F.; patient now covered with towels squeezed out in ice-water; ice-bag to head; temperature quickly fell below 103° F., only to rise again when towels were removed. Interesting to notice that the temperature is so much under the control of the physician that the cold towels lowered the temperature below 103° F. several times, only to rise again when the towels were removed, till, finally, temperature remained at 102.8° F., great care having been taken to avoid too sudden a fall from 109° F., especially when the temperature had fallen to 104° F.

9.15.—Patient covered with sheet and light blanket; temperature, 102.6° F.; pulse, 80, with twenty intermissions. Tr. strophanthus, ℥ x., with whiskey, ℥ xx., were given hypodermically. In five minutes there were but eight intermissions, in fifteen minutes but four, pulse being much stronger. Patient did not recognize his daughter, seemed sleepy, and hence the light was turned down and quiet enjoined.

10.00.—Temperature, 102.4° F.; skin naturally warm; pulse, 100; looks frightened when touched, but seems much relieved when he is reassuringly patted.

10.30.—Gave his name, and answered questions intelligently, though with a very thick tongue.

11.30.—Patient has slept quietly, yet not deeply; pulse, 90, no intermissions; temperature, 102.2° F.

12.00.—Improved; temperature, 102° F.; pulse, 90; ice-bag kept on head, and patient left with the nurse for the night.

8.00 A.M.—Very bright; temperature, 99.5° F.; pulse, 72, full and strong.

2. P.M.—Temperature normal; patient able to leave hospital, only sequelæ being two swellings over pectoral muscles, resulting from patient's fall.

In conclusion, let it be said that—

First, every case is a law unto itself.

Second, every case should be treated *immediately*, even while being carried home or to the hospital.

Third, the condition of the heart and temperature is the basis for all treatment.

Fourth, do not reduce temperature too rapidly below 104° F.

Fifth, patient must be disturbed as little as possible, and must not be left for a moment until he is either dead or on the road to recovery.

# Clinical Department.

## REPORT OF A CASE OF TUBERCULOUS NEPHRITIS, WITH AUTOPSY.

By J. H. REILLY, M.D.,

FAIR HAVEN, VT.

I was called on April 11, 1888, to see S. B——, aged seventeen, whose family history was very obscure, and found her suffering from severe pain in the region of the bladder. She stated that her trouble commenced about two years previous by pain in the region of the bladder and frequent micturitions, which afterward became very painful. This attack confined her to her room for about two months. From this she recovered and became well enough to attend school. Between the first attack and the present one she had two acute attacks, running about the same course as the first one. She had noticed a gradual loss of strength since her first attack. She had no cough, pain in the chest, night-sweats, nor any history of rheumatism. Her last trouble commenced about two weeks previous to my seeing her. She complained principally of frequent painful micturitions and constant pain in the region of the bladder. I made a general examination and found her much emaciated and very anæmic. I could not detect any abnormal condition of the lungs. The area of cardiac dulness was not increased, but a systolic murmur could be heard over the aortic orifice, which I attributed to her anæmic condition. There was no tenderness in the lumbar region, but palpating over the region of the bladder caused great pain. There was no abnormal condition of the urethra found. Œdema was not present. The urine which had accumulated in the vessel showed a large quantity of pus. Thinking it a case of chronic primary cystitis, I directed my treatment to that organ. I tried to wash out the bladder with a solution of biborate of soda, but the meatus, which was excoriated, was very sensitive, and not having any cocaine with me I did not succeed. The next day, after applying

to the meatus a ten per cent. solution of cocaine, I succeeded in passing the tube of the Davidson syringe into the bladder, but that organ was so sensitive that it would not tolerate over an ounce of the solution, and I also injected into it two drachms of the solution of cocaine; but the whole procedure was so painful that I had to give up the attempt. I prescribed for her a pill containing benzoate of soda, 4 gr.; ergotin, 1 gr.; ext. of hyoscyamus, 1 gr., to be taken every three hours, and also a tonic of iron, arsenic, and strychnine, and a diet consisting principally of milk. An examination of the urine revealed at this time a large percentage of albumen; the microscope showed a large quantity of pus, epithelium, and phosphatic crystals. I did not discover any casts at this time, but three weeks later hyaline casts were present in abundance. Her condition during the next month was somewhat improved, but not to any great degree. About June 1st, which was six weeks from the time I had seen her, the vesical symptoms were more aggravated; gastric disturbance had commenced, and a slight cough had developed, with pain over the apex of the right lung. Hectic fever was also present, with evening exacerbations. An examination of the lungs at this time revealed dulness and moist râles over both apices and the left base. Later on, tubal respiration could be heard, and the expectorated matter from the lungs was purulent. From this time up to the middle of August, when she died, her vesical pains were very severe, and could only be partially controlled by keeping her on large doses of morphine. The autopsy showed that emaciation had reached an extreme degree. Tubercular deposits were found all through both lungs and pleura, which were firmly adherent in places. Nothing abnormal was found about the heart. The liver was in a healthy state. The right kidney was large and pale, its capsule adherent. No tubercular deposits were found through it. On opening the left kidney about an ounce of pus was found in its pelvis, and a pyramidal-shaped tubercular deposit had taken the place of each pyramid, some of which had broken down in the centre, and the cavities which were connected with the pelvis were also filled with a greenish, purulent material. The ureter connected with this kidney was about half an inch in diameter, and its walls were very thick. The walls of the bladder were very much hypertrophied; its cavity was contracted. At the opening of the left ureter there was a large ulcer, probably produced by ichorous pus from the kidneys. Its mucous surface throughout was congested and roughened by elevations about the size of a pin's head, which I supposed were miliary tubercles. The peritoneal glands were in a state of tuberculous degeneration. The mucous surface of the stomach was also congested. The spleen was found in a normal state. The brain was not examined.

I think there can be little doubt as to which organ the primary trouble originated in. From the fact that her trouble dated back almost three years, and that pulmonary symptoms manifested themselves only two months before she died, I think it is safe to assert that the kidney was the organ primarily affected, and that the deposit in the lungs was secondary to it. That the bladder was the primary seat of the deposit I think we can exclude. If this were the case, the probability is that instead of the disease making its way up one ureter, it would be apt to involve both. There was also some doubt as to whether the elevations I referred to as existing in the bladder were tubercular or not. There was no ulceration in the bladder, only what was at the opening of the ureter. Roberts, in his treatise on urinal diseases, states that in primary tuberculous nephritis the urinary symptoms are the most prominent from the commencement of the deposit until the termination of the disease, while secondary deposits rarely give rise to any distinct symptoms, and that the deposits in secondary cases are minute, varying in size from a pin's head to a pea, and that they are scattered over the surface and through the cortical substance of the gland chiefly. In this case the cortical portion of the gland was free from the deposit. In fact, the deposit was confined only to the secreting portion of the gland.

Great stress is, by some observers, given to the variously shaped epithelium cells found in the urine as a means of differentiating diseases of the kidney from those of the bladder. From the condition found at a late stage of the disease this means of differentiating would lead to deception. Tubercular deposits taking the place of the tubules, and the pelvis being devoid of epithelium, the urine could only contain bladder epithelium, and, reasoning in this way, our diagnosis would be referred to the bladder. Dr. Schmidt, in a late article in THE MEDICAL RECORD, speaks of palpation of the ureter as a means of diagnosing diseases of this nature, and cites a case of secondary tuberculous nephritis in which he diagnosed the condition by finding the tubercle bacillus, and by palpating the ureter, and from other symptoms referable to the kidney. In his case he could feel the ureter on the left side for about an inch from the bladder, enlarged and tender.

Primary tuberculous nephritis, says Dr. Roberts, rarely runs its entire course without the occurrence of tubercular deposits in other and unconnected parts of the body.

## A CASE OF POISONING FROM OPIUM SMOKING.

BY JOSEPH COLLINS, M.D.,

NEW YORK.

CASES of opium-poisoning are, unfortunately, not among the rarities. The unusual avenue of entrance of the drug in this case, however, prompts me to report it. It will be seen that the symptoms differ somewhat from those produced by opium when taken in the ordinary way.

The patient was a youth, twenty-one years of age, well educated and refined, of a very nervous disposition, and a descendant of a family in which the neurotic tendency is well pronounced. He had been an "opium fiend," as opium-smokers term themselves, for upward of three years, and had suffered a previous but milder attack about seventeen months before.

When first seen the patient was laying on the floor beside a smoking outfit, vainly endeavoring to cook a last pill, which he knew would add to his danger. He was very much emaciated, face haggard, and presenting the characteristic sickly pale yellow look of the opium-smoking *habitué;* eyes dull and expressionless, pupils contracted; respirations reduced to about 12 or 13 per minute; pulse feeble and rapid; intellect sluggish, although answering rationally. From his companion I found that he had been smoking almost incessantly for the preceding two or three days, averaging about one hundred and twenty pills, of three to five grains each, in the twenty-four hours. He had not partaken of food or stimulants during this period, and was further weakened by an attack of vomiting and diarrhœa, which had set in a day or two previously.

The patient was put to bed, a drachm of brandy administered hypodermatically, coffee as much as the stomach would allow, and further smoking interdicted. His symptoms, however, became aggravated, and the following morning found his respirations reduced to 10 per minute; pulse, 130, and very weak, and the *morale* of the patient extremely bad. He complained of an indescribable gnawing sensation in the stomach, and extreme restlessness; could not be retained in one position more than a few seconds; had hallucinations, and imagined that each minute was an indefinite period; his mind continually hurrying from one subject to another that had engaged his attention in his previous career. Koumiss and brandy were given, as much as the stomach would tolerate, and $\frac{1}{120}$ grain of atropia hypodermatically every three hours, until the respirations reached 16 per minute. The following night, although his general condition was better, restlessness and insomnia seemed to be aggravated. The ordinary hypnotics—as chloral and sulfonal—did not have the least

effect in producing sleep, and as rest was now the most important factor, I decided to administer one-half grain morphia hypodermatically, which was done with the result of quieting him a very little. The succeeding day, coffee, koumiss, and champagne were given in turn, with the effect of bringing his respirations and pulse to nearly a normal condition. The restlessness and uneasiness of mind were influenced by the morphia when given subcutaneously, and then only in a slight degree, although doses averaging from one-half grain to two grammes were administered.

After a continuance of this condition for three or four days it was thought advisable to allow the patient to return to smoking small quantities again, as it was only under promise that no attempt would be made to break the habit that he consented to have any treatment whatsoever. An expert cooker was therefore obtained, and the patient allowed six pills, of two grains each, at one séance, not to be repeated more than three times a day. This was about one-tenth of his former quantity. From the first smoke he began to improve, and in a week's time his *yui yan*, as these poisonous symptoms are called, had nearly disappeared, leaving his nervous system in a very shattered condition.

There is an opinion abroad that opium-smoking is confined almost entirely to Celestials. Unhappily this is not the case. I have heard it estimated by a very well-informed gentleman, himself a smoker, that there are between eight and ten thousand "fiends" in New York City to-day; and to one who has not had intercourse with this unfortunate class of people it is scarcely possible to picture their miserable existence. I have now under treatment a lady, formerly an actress, who was obliged to forsake her occupation, society, and its pleasures and obligations, merely because it was impossible for her to pass any two consecutive hours without resorting to the solacing pipe.

No form of taking opium enslaves its victim so thoroughly as does that by the respiratory tract. The will-power and *morale* of the *habitués* are entirely abrogated. They will beg you to assist them to escape from its inthralment one moment, and forcibly resist you from making any endeavors to help them the next.

I consider it next to impossible to cure any patient of the habit without the aid of a well-regulated sanitarium under the charge of a competent physician and attendants, who can keep the patient under continual surveillance and treatment; and then very rarely, I fear, except by the substitution of one form of slavery, although a milder one, for another.

149 Lexington Avenue.

## A PECULIAR CASE OF TERTIARY SYPHILIS OF THE THROAT.

By E. HARRISON GRIFFIN, M.D.,

Attending Surgeon of Throat and Nose Department of Bellevue Hospital Out-door Poor, New York.

On March 1, 1889, Mr. F—— came to consult me at my office, complaining of a bad cough which kept him awake during the night, and made his throat painful from its incessant character during the day. He had been under treatment for two months previous, taking cough-sirups and morphine, and had been advised to eat rare meat with cayenne pepper, and drink as much liquor as he conveniently could. He was gradually growing worse day by day.

An examination of his larynx had never been made for this trouble. He had seen me once, two years previous, for a slight cough, which yielded quickly to treatment, and rendered a second visit unnecessary. He came with his wife, whom I was treating for a stenosis of the nose of syphilitic origin. A thorough examination at this time failed to reveal any syphilitic symptom.

Upon his second visit, two years later, I found, while examining his larynx, a deep ulceration and partial loss of the epiglottis, with heavy ulceration of the true and false cords, and ulceration in the sinus pyriformis.

I made my diagnosis, from the appearance of the ulceration and his past history, as syphilis of the larynx. He gave the history of chancre, twenty-five years previous. In the meantime he had been in good health—a little rheumatism, a slight catarrh, but never any serious illness. When he came to me he breathed with great difficulty, and his appetite had completely gone. His cough was incessant.

The history of the case and the appearance of the ulceration could leave no doubt of the stage to which the disease had progressed. I stopped all his previous treatment, saw him daily at my office, and treated the parts locally with Dobell's solution, tannic acid in solution, cocaine, voschano-oil spray, and the application of iodoform in powder over the ulceration. Internally I began with the potassii iodidi, gr. xx., and gradually increased to a drachm, three times a day, and had the hydrarg. oxidi rubri rubbed in over his neck three times a day.

The patient's stomach stood the doses of potassii iodidi and did not revolt, neither was there any acne. At the end of five days he complained of a slight pain in the bowel, with a diarrhœa attended with a bloody discharge. I thought this might be due to his inunctions of mercury, and ordered a smaller quantity to be rubbed in. His throat did not improve as rapidly as tertiary cases usually do to doses of iodide. One day it was better, and the next day it was worse. When I stopped the mercury his pain was less severe in the bowel, but the healing process of his throat was at a stand-still. I gradually decreased his potassii iodidi, and at the end of ten days discontinued it entirely, and put him under the one-thirty-second part of a grain of hydrargyri bichloridi in solution three times a day, and inside of a week was gratified to find my patient's throat markedly improved. Once or twice I had occasion to give him potassii iodidi in four-grain doses; but, as certain as I was to combine the iodide, I would find the ulceration on the increase in a few days.

Among the large number of these cases that I have been called to treat in private practice and in the Bellevue Out-door Poor Throat Clinic, this is the only one I have ever seen that yielded to hydrargyrum alone, and in which potassii iodidi did absolutely harm. His wife was able at one time to take one hundred grains three times a day, and, in fact, it was only by this dose that I was able to give her any relief from her symptoms.

The patient made a perfect recovery under the latter treatment, and gained twenty pounds in weight. I have heard since that the patient had been given up by his previous attendant, who had diagnosed his trouble as consumption of the lung.

An examination of the larynx is sometimes a very important factor in the cure of a case.

112 West Forty-fifth Street.

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Trading in Practices.—A lawsuit in England recently revealed a curious trade carried on by a young physician named Hanna. Soon after obtaining his license to practise, being then twenty-two years old, he bought a practice at Bingley for £250, and sold it thirteen months later for £650, though the purchaser does not appear to have been altogether satisfied with the transaction. He then went to St. Leonard's and bought a practice there for £185, but was not very successful in this venture and had to sell out for £275. Then he turned to Coventry, and bought the practice of Dr. Aitkens for £297, including the furniture. Here he took a partner, who paid £500 for the privilege of sharing in a practice which was represented to be worth £950 per annum. Soon after this Dr. Hanna became bankrupt in some unexplained way, and when taken to court the history of these transactions came out.

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## SOME SUGGESTIONS CONCERNING NOMENCLATURE.

LANGUAGE is intended to be the medium through which ideas are expressed, and in order that it may fulfil this purpose, it is of the utmost importance that the words used should have a definite meaning, and one that is expressive of a certain idea. This is especially true in science, and here, even more than elsewhere, the words of the writer or speaker should be carefully selected, and should be distinguished, as Dr. Pye-Smith has well said, by clearness and conciseness. There are several terms in medical nomenclature which are used in defiance of this axiom, and concerning which a few words may be useful.

One of these is the use of the word gland as applied indiscriminately to any collection of tissue whatever. Most authorities now employ the term strictly in the sense of a secreting body, and apply the word nodes or nodules to the enlargements occurring along the lymph-vessels, or to the collections of lymph-tissue in the intestines and elsewhere. This is a good distinction, and one that it would be well if writers would observe generally, since it tends toward the side of clearness and definite meaning.

There are two other points of medical nomenclature referred to by Dr. Donald Macalister, in *The Practitioner* for August, 1889, concerning which the writer offers some pertinent suggestions. The first of these is the distinction between tubercular and tuberculous. By most writers these two words are used synonymously, or rather interchangeably, without any attempt to separate them in meaning. The author suggests that the adjective tubercular be used only to denote a morphological appearance, implying a condition in which small nodules are apparent, being thus nearly synonymous with nodular. The term tuberculous he would employ solely as the adjective corresponding to the noun tuberculosis. Similarly, he would use the terms tubercule and tubercle to denote respectively the morphological cutaneous nodule and the specific granulomatous nodule.

A second suggestion made by Dr. Macalister is concerning the employment of the terms diphtheritic and diphtherial. The former word, he points out, is used in two very distinct senses, as relating to one of the forms of inflammation, or to the specific disease, diphtheria. "Pathologists," he says, "classify the inflammations of the mucous membranes as (1) catarrhal, characterized by a morbid increase of secretion with desquamation; (2) croupous or fibrinous, when there is an exudation from the vessels which coagulates on the epithelial surface and forms a separable false membrane; and (3) diphtheritic, when the exudation induces coagulative necrosis of the mucous membrane, and the false membrane formed is separable only as a slough. Necrosis and coagulation are the essential features of diphtheritic inflammation, and it may be due to various causes. The diphtherial virus, when it affects the pharynx and neighboring parts, may, according to its intensity and the state of the patient, set up either catarrhal, croupous, or diphtheritic inflammation; it by no means always induces the latter form. On the other hand, acute dysentery is often diphtheritic, though it has nothing to do with diphtheria. The neuritis of diphtherial paralysis is not a diphtheritic inflammation. It would be impossible to make this latter statement in a clear and concise form if the distinction here drawn were not observed, and therefore I would propose that diphtherial should refer to the specific disease diphtheria, while diphtheritic is reserved for the variety of inflammation, whether it be induced by the poison of diphtheria or not."

It would be well, we think, were these distinctions observed by writers on medicine, for they certainly are a step toward that clearness and conciseness in language which are so essential to a correct understanding of it.

## AN AËRIAL HOSPITAL.

THE value of high altitudes in the treatment of pulmonary phthisis is generally recognized at the present day, though unfortunately the number of sufferers who can avail themselves of this therapeutic measure always has been, and always will be, limited. Only the favored few are so situated that they can leave their occupations and can afford the expenses inseparable from a long journey and a prolonged stay in localities where the conditions are favorable for arrest of tuberculous disease. Again, the separation from home and friends is trying, and the depressing influences of nostalgia are often sufficient to more than counteract the benefits of climate and soil.

These drawbacks, however, are now to be done away with, for an ingenious Frenchman, Dr. Riera by name, inspired doubtless by a climb to the topmost platform of the Eiffel tower, has devised a means whereby high altitudes may be brought, as it were, to everyone's door, and an elevation of one, two, or five thousand feet may be reached in less time and with no more exertion than are involved in a street-car ride of a dozen city blocks. The accomplishment of this object is to be attained by means of a captive balloon of large size, beneath which is suspended a commodious hospital, provided with all the conveniences and luxuries of the best hotels on *terra firma*. The house can, of course, be raised or lowered to any elevation desired. Communication with the ground may be had by means of cars travelling upon the cables attached to the balloon. By means of telephones the inmates of the hospital can converse with their friends, or be entertained at evening concerts and lectures. The library will contain a full set of Jules Verne's works, and will be free to all. The opportunities for exercise would necessarily be somewhat limited, but the roof of the house could be used as a promenade, and the stronger and more

adventuresome of the patients might climb down and up the anchoring cables by way of getting up an appetite. Among the therapeutic measures employed as adjuvants to the high-altitude treatment, gaseous enemata would doubtless be popular, for the balloon could be tapped at any time, and if the gas were returned after use there would be no danger of reducing the level of the house.

We cannot refrain from extending our congratulations both to the originator of this brilliant scheme and to the many seekers after the hitherto unattainable which is now within their grasp. It is thus that science triumphs over all obstacles. Old age has been robbed of its terrors, and now the consumptive can sit in his eyrie and laugh at the bacillus of Koch.

### A REPORT ON CIGARETTES.

MR. WILLIS G. TUCKER, analyst to the New York State Board of Health, has sent in a report on the result of his examination of various popular brands of cigarettes. Statements are often made that cigarette tobacco is adulterated with opium or other agents, and that the paper wrapper contains various injurious substances. Careful analysis of tobacco and paper failed to reveal any poisonous ingredients other than the tobacco itself; and the examination tended to show, what is probably true, that most cigarettes contain pure tobacco and good paper. The evils of cigarette smoking are, as Mr. Tucker states, due to the fact that cigarettes are cheap, convenient, and can be used in large and excessive quantities, that the smoke is usually inhaled, and that children and immature persons so freely use them.

## News of the Week.

DR. HABERSHON, of London, died on August 22d. He was author of a work, well-known in this country, on diseases of the digestive organs.

SOME PERSONAL EXPERIMENTS WITH HANGING.—At the recent Congress of Forensic Medicine in Paris, Dr. Gosse, of Geneva, opened a discussion on hanging and described experiments made upon himself. On two occasions he had so far succeeded in hanging himself that he entirely lost consciousness. He found often that the cord did not squeeze the throat so as to stop the breathing. The rope formed a sort of triangle which pressed on the carotid, but not on the larynx. In that case death was not painful, there was a buzzing sound in the head, and unconsciousness at a very early stage. But if the rope pressed on the throat, then the struggle for breath was very painful. On carefully examining criminals after hanging, it would be found that when convulsions occurred the lungs were empty. If the victim could fill his lungs with air before the rope tightened he would not suffer so much, if at all. When a person was found hanged and there were two marks showing that the rope had changed place, this might be considered as a suspicious sign. It, in all probability, meant that he had been hanged after having been strangled. This he had noticed in the case of a gendarme hanged on the Swiss frontier. There were two marks, so he made a more careful investigation, and then perceived that the rope was too short for the gendarme to have been able to hang himself. Ultimately, what seemed a suicide was proved to be a murder.

SPONTANEOUS COW-POX.—Dr. E. Morrison, of Newton, N. J., September 4, 1889, reports a case which he believes to be one of original, or so-called spontaneous, cow-pox.

THE CHICAGO *Medical Journal and Examiner* has suspended publication.

ACCORDING to the *New England Medical Monthly*, President Timothy Dwight, of Yale College, has secured the title of "LL.D." for a homœopath to whom he felt indebted for professional services. This homœopath is furthermore said to have "given public documentary evidence of his small learning and less wit."

A NEW MEDICAL COLLEGE.—The U. S. Grant University of Chattanooga, Tenn., has organized a medical department which opens this fall.

TREPHINING THE LATERAL VENTRICLE.—In a case of severe tubercular meningitis marked by coma, slow pulse, Cheyne-Stokes respiration, fixed dilated pupils, and twitchings in one arm, Professor von Bergmann trephined the frontal bone and tapped the lateral ventricle. The immediate effects were excellent; consciousness returned, the pupils reacted to light, the pulse and respiration became more natural, and all went well as long as the cerebro-spinal fluid continued to escape through the puncture. But this drain ceased, the serious symptoms then recurred. and the child died.

AMERICAN ACADEMY OF MEDICINE.—Dr. Richard J. Dunglison, secretary, announces that the annual meeting of the Academy, for 1889, will be held at Chicago, Ill., November 13th and 14th, being postponed to that date by authority of the Council.

AN OFFICIAL INVESTIGATION OF ARTIFICIAL FOODS.—At the recent meeting of the Association for the Advancement of Science, Dr. F. Hoffman, of this city, read a paper on infant foods, in the course of which he stated that the chemists of the United States Agricultural Department were about to begin with the work of investigating the different artificial foods and infant foods now on the market.

MEDICAL CONGRESS IN BRAZIL.—The second Brazilian Congress of Medicine and Surgery will be held at Rio de Janeiro, beginning on the 15th of this month. The meeting will be presided over by Dr. Hilario de Gouvêa. Among the subjects for discussion the following are of general interest:—"The Nature, Cause, and Treatment of Beri-beri," "Prophylaxis and Treatment of Yellow Fever," "Prophylaxis and Treatment of Tuberculosis," "Geographical Distribution, Symptomatology, Nature, and Treatment of the Acute Spasm of the Œsophagus, which is endemic in certain parts of Brazil," "The Nature of Ainhum," "Elephantiasis Arabum," etc.

ORRIS ROOT IN AMERICA.—Florentine orris (*iris florentina*) is said to have been discovered in considerable quantity growing in South Carolina.

THE THIRD ANNUAL MEETING OF THE AMERICAN ORTHOPEDIC ASSOCIATION will be held in the building of the Boston Society of Natural History, at the corner of Boylston and Berkeley Streets, on September 17, 18, and 19, 1889. The following papers have been announced: Address by

the President, Dr. E. H. Bradford, on "American Orthopedics;" "Spondylitis after Typhoid Fever," by Dr. V. P. Gibney, of New York; "The Relation of the Thoracic and Abdominal Walls to the Spinal Column, considered with Reference to the Treatment of Anterior-posterior Curvature," by Dr. L. A. Weigel, Rochester (by invitation); "Psoas Contraction as a Symptom," by Dr. Dillon Brown, New York; "Double Congenital Dislocation of the Hip," by Dr. Samuel Ketch, New York; "A Case of Caries of the Ankle treated Conservatively," by Dr. C. C. Foster, Cambridge; "A Report of Cases of Caries of the Ankle treated by Excision (with exhibition of patients)," by Dr. Charles L. Scudder. Boston (by invitation); "The Value of Motion in the Treatment of Hip Disease," by Dr. W. R. Whitehead, Denver; "Rest in the Treatment of Hip-joint Disease," by Dr. De F. Willard, Philadelphia; "Abscesses in Hip Disease, their Prevention, Significance, and Treatment. A Clinical Study," by Drs. R. W. Lovett and J. E. Goldthwaite, Boston; "A General Discussion upon the Treatment of Hip Disease," by Drs. Shaffer, H. L. Taylor, J. E. Moore, Steele, De F. Willard, R. H. Sayre, Ridlon, Gibney, and others; "An Experimental Study of Distraction of the Hip-joint," by Dr. E. G. Brackett; "An Analysis of Twenty-one Cases of Hip Disease treated by the Thomas Splint," by Mr. John H. Huddleston; "The Treatment of Pes Equino Varus," by Dr. Henry Ling Taylor, New York; "Is Rotary Lateral Curvature of Rachitic Origin?" by Dr. G. W. Ryan, Cincinnati; "A New Exercise in the Treatment of Lateral Curvature of the Spine," by Dr. A. J. Steele, St. Louis; "The Treatment by Portative Appliances of Ununited Fracture of the Thigh," by Dr. Newton M. Shaffer, New York; "Operations upon the Spine for the Relief of Pressure Paralysis, with the report of a case," by Drs. Herbert L. Burrell and W. N. Bullard, Boston (by invitation); "A Case of Functional Torticollis, probably due to defective eyesight (with exhibition of patient)," by Dr. R. W. Lovett, Boston; "A Case of Congenital Absence of Five Ribs, with resulting Deformities," by Dr. Homer Gage, Worcester (by invitation); "The After-treatment of Hip Disease," by Dr. A. B. Judson.

Sam Jones on the Faith Cure.—In a recent sermon Sam Jones delivered himself as follows concerning the faith-cure brethren: "I'll tell you where this faith cure comes in. There's an old brother and sister who have been taking all the nasty quack patent medicine on the market for the last ten years. Somebody comes along and prays over 'em, and they quit using the patent medicines, and they are well again. They say it was faith that cured. It was faith. It was the faith which caused them to quit taking old patent nostrums which cured them."

An International Congress of Hypnotism.—Paris is congress-mad, and the number of so-called international congresses held there during the exposition season is legion. One of these was devoted to the study of hypnotism. The objects of the meeting were to determine upon a nomenclature for the new science, and also to collect and record facts illustrating the therapeutic value of the new method. Among the recommendations set forth by the congress was, that all public exhibitions of hypnotism should be prohibited, that the exercise of this force as a therapeutic measure should be placed under the same rules and restrictions that govern the practice of medicine, and that the study of hypnotism and its practical application should form part of the regular medical curriculum in the schools. The following is the somewhat clumsy definition of the hypnotic state as formulated by one of the essayists, M. Berheim: Hypnosis is a particular psychic condition, susceptible of being induced, which increases in varying degree the suggestibility of the patient, that is to say, the aptitude of being influenced by an idea accepted by the brain, and of realizing it.

Examinations for the Medical Corps of the Army.—An Army Medical Board will be convened in New York City, N. Y., October 1, 1889, for the examination of such persons as may be properly invited to present themselves before it as candidates for appointment in the Medical Corps of the Army. Application for an invitation should be addressed to the Secretary of War, stating date and place of birth; place and State of permanent residence, and accompanied by certificates, based on personal acquaintance, from at least two persons of repute, as to citizenship, character, and moral habits; testimonials as to professional standing, from the Professors of the Medical College from which the applicant graduated, are also desirable. The candidate must be between twenty-one and twenty-eight years of age, and a graduate from a regular Medical College, evidence of which, his diploma, must be submitted to the Board. Further information regarding the examinations and their nature may be obtained by addressing the SurgeonGeneral-United States Army, Washington, D. C.

A Latin Periodical.—Alongside of the Volapük enthusiasts there are a few men in this country, as well as in Europe, who are working to reinstate Latin as the language of science, if not of general communication between the nations of the world. These may be encouraged to learn that a periodical, written in chaste and elegant Latin, has recently appeared in Aquila degli Abruzzi, in Italy. It is edited by Carlo A. Ulrichs, a young Latin scholar of considerable reputation, and is published semi-monthly. Six numbers have already appeared, and the editor announces that the subscription-list is increasing in a very satisfactory manner, and contains the names of many scholars in Europe and America. The name of the periodical is *Alaudæ* (Larks). It is a purely secular journal, being filled with poems, stories, anecdotes, jokes, and news. An effort is being made, it is said, to establish a medical journal in Latin, but the success of such an undertaking would seem to be very problematical at this time.

The "Annales de la Tuberculose" is the name of a new journal recently established in Paris. It is to be published bi-monthly, and, as its name implies, will be devoted to a study ot tuberculosis in all its aspects.

The British Medical Association adjourned without deciding upon any place of meeting for 1890. It was supposed that London would invite the members to assemble there; but there is a want of harmony among the members of the medical profession in London just at this time, so the invitation was not forthcoming. No other place has expressed a desire for a visit from the Association.

A New Source of Supply of Podophyllum.—It is said that the May-apple grows in great abundance in the

Himalaya mountains, and that it is very much richer in podophyllin than the American plant, the amount of resin which can be extracted from it being nearly three times larger than that from the podophyllum of this country.

M. PASTEUR has been created a baron by the Emperor of Austria, for distinguished services.

DR. J. J. SHANKS has resigned the superintendency of the Flatbush Insane Asylum, and gone to Europe.

HOMŒOPATHISTS IN AUSTRIA.—According to the most recent official statistics in Austria, there are only 118 homœopathists out of the whole number of medical men, 7,183, and only 44 of these profess to practise homœopathy exclusively. There are none at all in the Italian districts, and only 19 in Vienna. The number also is said to be steadily decreasing.—*Medical Press.*

SMALL-POX is said to predispose one who has suffered from it to contract tuberculosis.

THE MOTT MEMORIAL LIBRARY.—One of the funniest institutions in this city, says *The Sun*, is the Mott Memorial Library. Dr. Valentine Mott left it behind him because he could not conveniently carry it into another world, and it has since been maintained as a public institution. It is strictly medical, chiefly surgical, almost entirely confined to the period of twenty-five years ago. The library and various busts and portraits of its original owner are housed in a delightful old brick mansion in Madison avenue. The books are carefully locked in cases, and seldom consulted. The whole house is exempt from taxation. Of course, it is wicked to tax a free library. Meanwhile, however, the rooms in which the unused library is situated are rented to various organizations.

THE CORNER-STONE OF THE DELAWARE HOSPITAL, in Wilmington, was laid August 18, 1889. The cost of the grounds and building when completed will amount to $20,000, $16,000 of which is in hand.

SURGEON HARVEY E. BROWN, U. S. A., died August 20th, at Jackson Barracks, near New Orleans. He was a son of General Harvey Brown, of the regular army, and born in New York. He graduated from the University Medical College in 1858. He was surgeon of volunteers from 1861 to 1863, and then became Assistant Surgeon, U. S. A.; became full Surgeon and Major in 1881. He was the author of a valuable compilation and historical sketch of the Medical Department of the Army from 1775 to 1873. He was identified with nearly every epidemic in the Gulf District for twenty-five years. His final disease was lingering and painful, due to consumption.

JOHNS HOPKINS UNIVERSITY RUINED.—The New York *Sun* prints a long communication from Baltimore, describing the financial condition of the Johns Hopkins University, and claiming that it is now practically ruined. The endowment was nearly all in Baltimore & Ohio R. R. stock, which once paid ten per cent. dividend, but now pays nothing. We note, however, that the University has just received a legacy of over $100,000 by the will of John W. McCoy.

VIRCHOW ON THE DARWINIAN THEORY OF THE ORIGIN OF MAN.—Professor Virchow, at the recent session of the Anthropological Congress at Vienna, again attacked Darwin's theory of the origin of man. "It is now," he said, "twenty years since this doctrine of triumph has reached us, that we had only to find the connecting link between man and monkey to complete our history of race and varieties; but our labors since then have been fruitless in discovering that important connection, the 'vormensch,' or that particular 'pro-anthropos' which would enlighten our path. Since the promulgation of this theory many stormy wars have been fought, but now we are inclined to believe that every human race has come from a race of human beings, and not from the monkey tribe at any time."

SUICIDE OF DAVID TILDEN BROWN.—Dr. David Tilden Brown, Superintendent of Bloomingdale Asylum, from 1855 to 1875, committed suicide at his farm, at Batavia, Ill., on September 5th. Dr. Brown was the victim of sensational journalism. In 1875 a New York paper began a bitter fight against the Bloomingdale management, because of alleged outrages carried on there. This attack so affected Dr. Brown that his health failed and his mind became unbalanced. In this condition his wife took him abroad for treatment. His insanity was of a mild form. In an Edinburgh asylum a partial cure was brought about. The doctor and his wife returned to America. In an Illinois asylum, where Mrs. Brown secured a position as matron, the cure was completed, and with what money he had left Dr. Brown bought a small property in Batavia, Ill., on which he has since lived happily. His son, Dr. F. T. Brown, lives in this city. A few weeks ago, a New York daily came out with a sensational account of Dr. Brown's history, and a statement that he, though believed dead by all his friends, was alive. The publicity given to this story is said to have acted upon Dr. Brown's sensitive mind, and produced an attack of melancholia. Dr. Brown was a man of fine attainments, a very popular man, and an accomplished physician.

JUGULATING PNEUMONIA.—At the recent Therapeutical Congress, in Paris, M. Petrescii, of Bukharest, claimed that pneumonia could be aborted in its early stages by giving large doses of digitalis, *e.g.*, 4 to 8 grammes (3 j. to 3 ij.) of the leaves in infusion, daily.

DR. J. G. JOHNSTON, of Brooklyn, who was recently arrested under charges of criminal assault, has been, we are told, entirely exonerated.

IT IS STATED THAT MR. REGINALD HARRISON, F.R.C.S., of Liverpool, who is well known as an authority and a skilful operator in diseases of the urinary organs, is about to take up his residence in London.

THE SECOND ITALIAN CONGRESS FOR INTERNAL MEDICINE meets at Rome, October 15 to 18, 1889. Among the subjects to be discussed are malarial infection, nephritis, and gout.

ORTHOMETHYLACETANILIDE is the name for exalgine, found by Dujardin-Beaumetz to possess very marked analgesic properties.

OVERHEAD ELECTRIC WIRES IN LONDON.—Attention was called recently in Parliament to the danger from overhead wires in London, and an effort is being made to have them put underground.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Fifty-seventh Annual Meeting, held at Leeds, England, August 13, 14, 15, and 16, 1889.*

(Special Report for THE MEDICAL RECORD.)

(Continued from page 275.)

### SECTION OF MEDICINE.

WEDNESDAY, AUGUST 14TH—FIRST DAY.

DR. JOHN E. EDDISON, of Leeds, delivered the

PRESIDENT'S ADDRESS,

which consisted merely in a few words of welcome and a brief sketch of the work proposed for the Section. He remarked that in his opinion it was wrong to so far divide the study of medicine, and he much regretted the excessive multiplication of sections. Thus medicine was split up into sections of therapeutics and pathology, and there seemed to be a tendency to make the medical section into a mere place for the discussion of the symptomatology of disease, a fatal error, he thought.

DR. R. DOUGLAS POWELL, of London, then began the work of the Section with a communication upon

THE CLINICAL ASPECTS OF CHRONIC TUBERCULOUS DISEASE OF THE SEROUS MEMBRANES.

He said he would not enter into the detail of symptoms before such an instructed audience, but merely give a few general observations on tubercular diseases of serous membranes in different regions of the body. Tubercular disease was sometimes a primary affection in the pleura, the joints, the cranium, and the peritoneum, and was often localized in one serous membrane, so that the symptoms produced were due to the presence of tubercle in the part. It was said that in such cases the tubercle bacillus effected an entry into the region from the outer surroundings of the patient; but he agreed with Mr. Barker, who had observed that a certain state and condition of the tissues seemed necessary for the appearance of tuberculosis in any part. Thus in children the cells of the embryonic tissue were less resistant to the invasion of the bacillus than those of adults in certain localities. Thus simple inflammatory disease of a joint might lead to the invasion of the bacillus from lessened resistance. In children of the ages between three and nine the tissues were remarkably vulnerable; but after the age of nine it was rare to see tubercle in the joints. This period (three to nine) was a period of great excitement. Tubercular meningitis was rare in adult cases of consumption; thus in 563 cases of that malady occurring in Brompton Hospital, London, only 30 suffered from that form of it. Tubercular meningitis as a chronic disease was so rare as to be almost unknown. It proved fatal so rapidly that it was not one of the instances of chronic tubercular disease of the serous membranes, so that he need say nothing about that kind of affection of the serous membranes. Pleurisy, he observed, was known to precede tuberculosis in many cases, and it was often difficult in such circumstances to ascertain whether there might not be, simultaneously with the pleurisy, some deposit of tubercle in the lungs. He mentioned a case of pleurisy which had been under his care nine years previously, and which he had brought before the notice of the International Medical Congress in London. In this case he had drawn off the serous fluid, and the patient was confined to bed for sixty days, and left the hospital with a contracted left lung. Last year, 1888, this patient had extensive tubercular disease of the same lung. In another case a girl, in 1885, had been treated for pleurisy with effusion, and in 1888 she exhibited symptoms of phthisis pulmonalis of the left apex, with many bacilli present in the sputum. In this case there had probably been some consolidation of the pleura previous to the occurrence of the pleurisy in 1885. In the sputum there were lime salts present, and very likely there had been some arrest in the progress of the tuberculosis and deposit of lime salts around a small cavity which was not recognized when the pleurisy was present. He drew attention to the

DIAGNOSTIC POINTS

in ascertaining the presence of tubercle in such difficult cases as this. Of such were slight hectic, slight cough, and wasting of the body. Perhaps tubercular disease might be found to exist in other organs. Dry pleurisy at the apex of the lung was a very suspicious symptom, and Dr. Burney Yeo had given interesting cases where such dry pleurisy of the apices had existed without tuberculosis. In some cases the sputum was tinged with blood. Then, again, too little attention was often paid to slight rising of the temperature in such cases. In some instances of tubercle in the lungs the temperature might only rise to 99° F. in the evening; but, if this continued, it was of very great importance as a point in diagnosis. Then as to the effusion, in most cases the fluid was perfectly pure. When stained with blood this might lead to the suspicion of the existence of tuberculosis or cancer. Setting aside cases of pneumo-thorax, pus was rather the exception in such cases of pleurisy than the rule. In twenty cases of pleuritic effusion in consumptive persons there was a total absence of bacilli in the effusion. This was ascertained, firstly, by microscopic observation; next, from cultivations with the fluid, which proved fruitless; and, lastly, from the results of inoculation of the lower animals with the effusion, although the last of these processes had been the most positive in its results in similar cases. Yet in some of these cases the pleuræ were found after death to be studded all over with tubercles. In one case he had seen, a gentleman had gone to Corfu, and while on that island had experienced a chill while travelling. Shortly after this the patient presented symptoms of softening of the right base of the lung. The temperature fluctuated in this case, and it apparently was one of simple pleurisy; but it turned out to be a case of phthisis. In his case he examined the effused fluid repeatedly for bacilli, but at first found none, and it was only on the seventh examination that a few were seen. In another case of empyema he had procured a drop of pus from the pleural membrane itself, and this showed bacilli. He asked,

WHAT BECOMES OF CASES WHERE ABSORPTION TAKES PLACE?

In such cases the tubercle became obsolescent, and the prognosis depended upon the condition of the lung itself. With regard to the thickening of the pleura, a hard, thick, cartilaginous pleura was not a concomitant of tuberculosis. These are the cases in which pneumothorax occurs in phthisis pulmonalis. In the case of tubercular peritonitis the diagnosis of the disease was of great difficulty in the outset of the case. Friction might sometimes be heard. The pulse was quicker than usual, and the temperature heightened, although it had a lower range than in tubercular pleurisy. Then there was loss of flesh and some ascitic effusion. This ascites might in the female simulate ovarian dropsy. In one case which he had seen the woman looked quite as if she was suffering from ovarian disease, but this was not the case. Then there was the case which had been published by Sir Spencer Wells, in which there was a prominent abdomen, and when the abdomen was opened the peritoneum was found to be studded all over with tubercles. Sir Spencer Wells stitched up the abdomen, and the patient recovered. This was twenty-six years ago, and he had heard that the patient was alive.

Of thirty-eight cases collected in which the abdomen had been opened in similar circumstances, sixteen of the patients recovered their health. He was not sure whether all of these were really tubercular peritonitis. In another case cited by the author masses could be felt agglutinat-

ing the intestines together, the tongue was glazed, and the pulse quick. In another case, which proved fatal, there was complete strangulation of a knuckle of intestine, and Dr. Fenwick had noticed this cause of death in some cases. Louis' dictum, that when, in an adult, there was tubercle in any organ of the body, there would also be found to be tubercle in the lungs, was almost, but not quite, true. The tendency of tubercular disease was to produce fibroid degeneration in cases where pleuritic effusion had existed for a lengthened period. The pelvic portion of the peritoneum was almost a separate sac, and was often entirely shut off from the general peritoneal cavity. In his experience two cases of tubercular peritonitis had been diagnosed as neurasthenia, and had been treated by massage, which had proved fatal to the patients. As a clinical phenomenon, it must be conceded that tubercular peritonitis was not necessarily a fatal disease. In the tunica vaginalis testis the appearances were similar to those seen in pleurisy.

THE PROGNOSIS OF TUBERCULOSIS IN THE PLEURA AND OTHER SEROUS MEMBRANES WAS NOT HOPELESS,

but, of course, very alarming. No drug we were acquainted with had the power of curing tubercle; neither iodoform nor any any other antiseptic possessed such power. Perhaps mercury, pushed to salivation, might occasionally kill the bacillus; but all other parasiticides were too feeble, so that all that could be done was to strap the chest in pleurisy, or depend on other palliative remedies. With regard to operations, great differences existed as to the operative treatment to be employed in joint tubercle, for while one surgeon would operate early and frequently in such cases, another would but rarely operate, and when he did so would do it late on in the disease. General tubercular disease in other organs might be lighted up by the spread of the bacillus from one organ. Effusion in other organs might be salutary in cases of tuberculosis of the lungs. The idea of opening the peritoneum in tubercular peritonitis would have been looked upon with horror some years ago. But Mr. Knowsley Thomson had twice operated inadvertently in such cases of tubercular peritonitis, and had had no bad results. There were, of course, favorable cases, for it was impossible to remove the disease by operation, and the successful cases were those which were not associated with perforation of the bowels.

Dr. Handford, of Leeds, agreed with Dr. Powell that tubercle could not be cured by any drug. The tubercle bacillus ran a very different course in different animals. The chief effort in therapeutics should be directed toward improving the condition of the organ affected with tuberculosis. He was by no means convinced that all the cases where the peritoneum had been opened by surgeons, and tuberculosis had been said to exist, were clearly cases of tubercular peritonitis. In some cases called tubercular peritonitis no bacilli had been found. He asked whether laparotomy was indicated in cases where no effusion existed into the peritoneal cavity. In suppurative peritonitis laparotomy might be of service.

Dr. Burney Yeo said that it would be very important in discussions if some proposition were defended and attacked, as it would save time in sticking to the question. As to tubercular disease of the pleura, this rarely took place without the lung also being affected. Certain cases of disease of the apex might occur, which were dependent on rheumatic affections. Cases like these got well, and often figured, he believed, among the cases of cure of phthisis. Other cases existed with diseases of the joints of rheumatic character, and iodine and iodide of potassium cured them. A patient of his had some signs of bronchial catarrh, but no symptoms of phthisis, *i.e.*, neither emaciation, quick pulse, night-sweats, nor hectic. She was considered to have phthisis by some, but neither himself nor some other consultants took that view of the case. He agreed with Dr. Powell that it was not very good practice to remove the effusion in tubercular peritonitis. He was in favor of antiseptics in the treatment of such cases.

Dr. Churton said that he had had recently a case of a man with tubercular peritonitis under his care, and who, although not actively treated, had quite recovered. In some cases where he had thought that the patient had been cured, tubercle had afterward appeared in the lungs. He asked whether in such cases the opening of the abdomen might not prove curative. As to diagnosis, he considered that the presence of blood in the fluid drawn off from a suspected case of tubercular effusion was not of much value as a symptom of tuberculosis.

Dr. Broadbent, of London, would say only one word as to the effect of the incision of the abdomen in tubercular peritonitis. He had not been fortunate enough to see a cure effected by this operation in any case; but in all instances in which this operation had been performed there had been some relief given to the patient. In one instance great relief was given, and life considerably prolonged. Tubercle, he observed, was a very vulnerable neoplasm, and thus this operation might cause its disappearance in the organs.

Dr. C. G. Brown said that pleurisy of the base of the lung was not infrequently followed by deposit of tubercle in the apex of the lung.

Dr. Drysdale, of London, said that the opener of the paper had alluded to the extreme vulnerability of children from three to nine years of age with regard to the tubercle bacillus in joints, and he would like to ask whether the whole human race might not be considered as vulnerable in like manner, if subcutaneous injection of tubercle bacilli were effected. This was his own belief, but he had heard it doubted by most competent persons. He had seen several cases where apparently innocent pleurisy with effusion had, in a few years afterward, been followed by phthisis pulmonalis, and cited the case of a gentleman, aged fifty-seven, who caught cold, had pleurisy with abundant effusion, from which he recovered, but three years subsequently had phthisis pulmonalis and died of the disease. This was an instance of a part becoming vulnerable to the bacillus because of an attack of inflammation. He had never detected the tubercle bacillus in pleuritic effusions, even in consumptive patients. He saw but little good in the proposal to operate in cases of tubercular peritonitis, and was afraid that this was one of the cases of the *nimia diligentia medici* which were to be avoided.

Dr. Saundby, of Birmingham, agreed that the bacillus of tubercle could not be combated by germicides, and hence

ANTISEPTIC TREATMENT WAS OF NO VALUE IN THE TREATMENT OF CHRONIC TUBERCULOSIS OF SEROUS MEMBRANES.

He was not in favor of incision in cases of tubercular peritonitis. As to the circumstances which favored the appearance of tuberculosis, he held with Professor Virchow that these were of even greater importance than the presence of the bacillus tuberculosis. Predisposition was of immense importance in the producing of phthisis pulmonalis, and the human race were by no means all equally vulnerable by tuberculosis.

Dr. Dreschfield explained how it was that tubercle became obsolescent. In his view the germs existing in the part gradually exhausted all the material requisite for their nutrition, and unless they were carried to another part where there was fresh pabulum, they tended to die, and then there was a deposit of lime salts in the cavity left by the bacillus.

Dr. Eddison thought that the good done by mercury in syphilis was not by killing the bacilli, but by making the blood antiseptic and incapable of nourishing the germ of that disease. The reason why tubercle bacilli could not be found in tubercular pleurisy was because we passed the trocar into the fluid part. He strongly objected to the vicious circle of therapeutic diagnosis which said that

because a disease was curable by mercury and iodide of potassium, it was therefore clear that it was a case of syphilis, etc. As to the question of incision into the peritoneal cavity and the discovery of the existence of tubercular peritonitis by inspection, he felt inclined to ask whether in all the cases where the peritoneum was opened and tuberculosis diagnosed, the diagnosis had been clearly made out.

MR. IMLACH, of Liverpool, said that in some cases where he had opened the abdomen he had discovered tubercle in the ovary and in the peritoneum, and there were cases in which he had operated in which he had found the peritoneum studded with tubercle. In five such cases he had expected to hear of the speedy death of the patients, but this had not taken place, although he had interrogated the friends of such patients for many months after the operation. The diagnosis of tubercular peritonitis was extremely difficult. Washing out the abdominal cavity with hot water was often of great service in such cases.

DR. DOUGLAS POWELL, in reply, said that antiseptics were useful in pleuritic effusion when there was pus present. Such antiseptics had, however, had no influence on the bacillus tuberculosis. He was glad to hear Dr. Broadbent say that incision was sometimes beneficial. As to the remark made by Dr. Drysdale, that the whole human race were vulnerable to tubercle, this referred to cases in which subcutaneous injections with a quantity of bacilli were made, and these were not comparable with ordinary cases of infection from a few bacilli. He believed that all persons might be vulnerable in such circumstances as those of inhalation of bacilli contained in spray or in liquids which were subcutaneously injected. Dr. Imlach's cases were a great contribution to the subject.

DR. CUTTER, of New York, exhibited a number of lantern-slides of the blood of tuberculous patients, and showed groups of yeast-cells which were contained in the blood of such patients, and which, he said, were easily removable by the removal of sugar from the diet of such patients.

DR. C. R. DRYSDALE, of London, read a paper on the alleged

RARITY OF PHTHISIS PULMONALIS AMONG LONDON JEWS.

The author of the paper said that there had been for some time past an idea entertained in London that conforming Jews in that city were far less liable to the inroads of tuberculosis than the ordinary population of London. This opinion had been entertained by Dr. Septimus Gibbon, and also by Dr. Maurice Davis and Dr. Behrend, of London, all of whom, experienced physicians, had spoken as if the occurrence of consumption among London Jews was excessively rare. His own experience as physician to the Metropolitan Free Hospital of London was also that phthisis pulmonalis was comparatively infrequent among the Jewish patients residing in the neighborhood of Houndsditch and the Jewish quarters of the East End of London. In order, however, to clear up this point he had made inquiries of several London physicians practising among their own brethren, and had received communications from Drs. Dyte, Kish, and Abraham Cohen, in addition to similar letters from Dr. Maurice Davis and Dr. Behrend. This evidence was conflicting, for while some of the older practitioners were very affirmative as to the extreme rarity of consumption among London Jews, the younger physicians admitted that phthisis was by no means infrequently met with among them. Dr. Drysdale had been permitted to witness the slaughtering of sheep and oxen at the Deptford cattle market, and the way in which such animals were inspected after death to ascertain whether their flesh was free from impurities, or

KOSHER.

The organ most closely examined by Jewish inspectors was the lungs, and the very smallest marks of pleurisy, or pneumonia, or tuberculosis occurring in cattle and sheep sufficed to cause the animal to be instantly rejected by the inspectors, so that about one-third of all the animals examined were rejected as unfit to become the food of orthodox London Jews. He heard, however, that perhaps not once in one thousand or two thousand cases was tuberculosis detected among the cattle examined at the Deptford cattle-market; but still modern researches seemed to have made it evident that the flesh of such animals might spread tuberculosis among such persons as partook of it. This was the cause assigned by Dr. Behrend and other Jewish medical men for the comparative infrequency of tuberculosis among conforming Jews. Dr. Drysdale's conclusions were: 1, That there seemed to be much evidence that tuberculosis was rather rare in London among Jews who eat only *Kosher* meat, although he thought the rarity had been exaggerated; 2, that tuberculosis in cattle was an occasional cause of consumption in the human race; 3, that Jews probably escaped this form of contagion to a great degree owing to the care taken by their inspectors; lastly, that it was important that such a system of examination of animals offered for food should be made by inspectors either appointed by municipalities or by private companies for the supply of meat in our cities.

DR. MACLAUREN, of Australia, said that in New South Wales there were about five thousand Jews, and in three years there had only been two deaths from tuberculosis among that population; whereas consumption was now nearly as commonly met with in Australian cities among the ordinary population as in the cities of Great Britain. He was inclined to attribute this very great immunity of the Jews in Australia from tuberculosis to their examination of the cattle used as food, many of which were affected with tuberculosis in that country.

DR. EDDISON said that in Vienna there was a good deal of consumption among the Polish Jews attending hospital in that city, and it would therefore be interesting to know whether in cases where consumption was rarely met among the Jews, as had been said, such Jews were more orthodox and attended more to their religious traditions than such Polish Jews did. In Leeds, where there was a colony of Jews, he suspected that but little attention was paid by them to the quality of the meat bought for consumption. Indeed, such Jews purchased the very poorest parts of the meat offered in the market, and consumption was not infrequently met with among them in Leeds.

DR. ACLAND, of London, said that he would gladly offer Dr. Drysdale an opportunity of continuing his inquiries in such cases at the Brompton Consumptive Hospital, where there were patients of all classes suffering from consumption. The poor suffered much more from tuberculosis than the rich, and it would be interesting to ascertain whether such Jews as contracted phthisis were more lax in their attention to the rules of diet laid down in the sacred books of their religion than those who escaped from the disease.

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## SECTION OF SURGERY.

WEDNESDAY, AUGUST 14TH—FIRST DAY.

MR. JESSOP, of Leeds, gave a short address on the

TREATMENT OF CANCER OF THE RECTUM,

introductory to the discussion announced to take place on that subject. Mr. Jessop said that the treatment of cancer of the rectum involved distrust of the past and hope in the future. With regard to chian turpentine we might now relegate it to its proper place on the back shelves of the chemist's shop. Touching lightly on the hygienic and medicinal treatment of cancer of the rectum, Mr. Jessop remarked, among other things, that frequent washing out of the rectum with simple water was useful in many cases. Astringents were suitable in cases where the anus and sphincter were implicated and the fæces were liquefied. We should aim at obtaining simply a single daily evacuation from the bowels. Coming then to the consideration of operative procedures, he observed

that they were of two kinds, viz. (1) operations for the oblation of the disease, and (2) operations for diverting the fæces, and thus dispensing with the rectum as the channel through which to evacuate them. The former class of operations must necessarily be confined to the lower regions of the bowel; the latter were applicable to all. He would pass by operations which consisted in scraping the diseased surface and go on to consider

PROCTECTOMY.

This had only lately been forced into prominence by the success of our German colleagues. It only remained to determine in what cases it should be undertaken. In performing the operation it was of importance to secure proper drainage, to retain an efficient sphincter, and to prevent subsequent cicatricial contraction. His own cases were seven in number. Of these one died from the operation, but the patient was a poor curate, greatly reduced in health before being operated on, and he never recovered from the collapse immediately following the operation; the disease extended round four-fifths of the circumference of the gut, just above the anus. In the re maining six life was extended for varying periods. Thus one patient appeared well after twenty-one months, and another after seventeen months, from the date of the operation; while a third was unable to leave his room nine months after the operation, owing to speedy return of the disease. Proctectomy was a valuable means of prolonging life and alleviating suffering. He had not himself removed cancer from a higher part of the rectum than could be reached by the finger inserted through the anus, but he should be glad to hear the results of those who had removed neoplasms from higher portions of the bowel. He could not advise interference with cancer of the anterior wall of the rectum when the urethra, bladder, prostate, or uterus was involved. In performing the operation the patient should be placed in the lithotomy position. Either the anus should be dilated or an incision made into the rectum. He did not advise sutures to the wound. It should be kept scrupulously clean, iodoform dressings employed, and celluloid drainage-tubes used. The rectum should subsequently be washed out every eight hours with an antiseptic solution and an iodoform suppository inserted. Proctectomy was an operation of limited application in the present state of our knowledge. He had never himself removed diseased portions of bowel through an opening in the colon, but a previous diversion of fæces (as effected by colotomy) was of advantage before undertaking an operation for the removal of diseased portions of bowel and saved the patient considerable distress.

Mr. Jessop then passed on to consider

COLOTOMY.

Before asking to what extent it prolonged life, he would, he said, ask how death ensued in cases of cancer of the rectum? Of 102 patients he had seen, 17 had died from complete obstruction of the bowel unrelieved by operation, 15 had died from obstruction in cases where left lumbar colotomy had been performed, 3 had died from hemorrhage, 5 from acute septicæmia, 2 from the implication of other organs, 9 had died after left lumbar colotomy without total obstruction having occurred, and 51 had died from exhaustion. In not one of the thirty-two cases (31.4 per cent. of the whole number) in which death occurred from obstruction was the disease within easy reach of the finger passed into the bowel; in most, it was quite out of reach. In cancer of the lower half of the rectum there was not much fear of complete blockage occurring; when the upper half of the rectum was involved the opposite was the case. Mr. Jessop then referred to some cases of cancer of the rectum which had not been operated on, but which had survived several months (in one case seventeen months, in another thirty-six) without complete obstruction coming on. In cases of cancer in which the upper movable part of the rectum was the seat of the disease, we should, knowing as we did that blockage would occur, make an opening in the colon above. Excluding doubtful cases, the following were the results of 86 cases of cancer of the rectum: In 52 cases no operation was performed, and the average duration of life after the first appearance of symptoms was seventeen months. In 34 cases left lumbar colotomy was performed, and the average duration of life was twenty-two months and a half from the first symptoms, and fifty-three weeks from the date of operation. Among patients who were advised to have an operation, but who refused to submit to it, the average duration of life was thirty-four weeks. The average extension of life due to operation was therefore nineteen weeks, but we must admit that many of those cases in which operation was declined were less severe. He concluded, therefore, that colotomy did prolong life in cases of cancer of the rectum. It was a question, from observing the comparative sufferings of patients, whether it was advisable to open the colon in cases where life was not directly imperilled. The benefits of the operation were that it relieved pain, diminished the constant desire to defecate, reduced the incontinence of fæces, and enabled the patient to have one motion in the twenty-four hours discharged with ease. What kind of operation best met the condition of the patient? Inguinal colotomy had been again considered since Mr. Herbert Allingham's paper at the Dublin meeting of the Association (1587). The disease had been removed through a lumbar or inguinal opening. The present choice, however, lay between proctectomy on the one hand and some form of artificial anus on the other.

Mr. F. Marsh, of Birmingham, then exhibited a patient on whom he had performed

MADELUNG'S OPERATION,

and subsequently excised the rectum. The patient was a man, twenty-eight years of age. The colotomy was performed on March 1st last, the excision of the rectum on March 29th, and the patient was discharged from hospital on May 20th. In excising the rectum no vessel required ligature. The peritoneum was not opened, but formed the upper boundary of the wound. The case was so successful, said Mr. Marsh, that he had made up his mind in future cases of cancer of the rectum to first perform an inguinal colotomy and then excise the rectum.

Mr. Mitchell Banks, of Liverpool, then spoke, and said his experience of lumbar colotomy was confined to twenty or thirty cases. He believed the mortality was due chiefly to the condition prior to operation. He did not think one site was preferable to another for an artificial anus; the distress of having one at all far outweighed such considerations. In one lumbar operation he could not find the colon at all, so he had opened the nearest piece of small intestine. In cases of doubt it was a valuable plan to inflate the bowel with air by means of an ordinary Higginson's syringe. He agreed with Mr. Jessop as to the value of complete division of the bowel in preventing the fecal matters from passing on beyond the artificial anus. Speaking generally as to the benefit of operating in malignant disease of the rectum, he said that no doubt where there was complete obstruction an operation was desirable, but in many cases the prolongation of life for a few weeks or months, accompanied with suffering, was not a very great benefit.

Mr. Harrison Cripps said he had performed seventy operations for rectal cancer, viz., thirty excisions and forty colotomies. With regard to excision of the rectum we must select our cases. He was aghast at the mortality (thirty to forty per cent.) obtained by German surgeons. Such a mortality should cause abandonment of the operation. Here, where we selected the cases, the mortality was much less; if we did not select them, it would be as high. An operation which would be safe in the case of a middle-aged man became dangerous in an old man broken down by malignant disease. We should take care only to operate in cases where there is no constitutional infection, as of the glands or liver. Not more than four or five inches of

the bowel (as regarded height from the anus) could be removed. The growth could, in fact, be removed only when it was so near the anus that the finger could feel healthy mucous membrane above it. A movable condition of bowel was favorable to operation. If it were fixed, he would not operate unless it were fixed on its posterior wall only or on the ischio-rectal fossæ. It was unsafe and unwise to operate when the bowel was attached to the uterus or the prostate. When the recto-vaginal septum was involved he would not operate when the upper part was involved, because in such cases Douglas' pouch was mostly drawn down and the peritoneum would be opened. Kelsey's tables in America showed a mortality of twenty per cent. In his own thirty cases he had had two deaths. In the remaining twenty-eight cases recurrence had taken place in most after varying periods of time; in three cases no recurrence at all had taken place. The operation prolonged life and in comparative comfort. Pain was removed—at any rate, for a time—and even when the disease subsequently returned the pain was less severe—possibly because the sentient nerves had been largely removed. In operating, the best plan was to divide the bowel freely behind. It should not be drawn down and no sutures should be used. The wound should be plugged with lint, and a bougie be subsequently employed to prevent contraction. Passing on to the

ADVANTAGES OF COLOTOMY,

he said these were twofold, the operation gave relief and retarded the rate of growth of the malignant disease. In cases of cancer of the rectum contraction would sooner or later occur. There would be first constipation and then diarrhœa, of which the cause was not the disease itself but the accumulation above, from which a dribbling away from time to time took place. The case was similar to the overflow which occurred from a distended bladder. Colotomy took away all these symptoms and gave the patient comparative comfort. The operation should be performed as soon as there were any symptoms of obstruction. The mortality was in many cases not from the operation but from the state of the patient. In his own cases, forty in number, he had not had a single death from the operation. He had formerly employed the lumbar operation, but had lately discarded it for the inguinal operation, influenced by Mr. Herbert Allingham's advocacy of the latter. The advantages of this were, firstly, that the space in which to operate was larger; then there was less difficulty in finding and identifying the bowel. Sometimes the colon was abnormal and did not descend in the left lumbar region at all; with the inguinal operation it would be easy to detect any abnormality. Mr. Cripps remarked, in conclusion, on the advantage of early examination in cases of rectal disease so as to establish the diagnosis.

Mr. Herbert Allingham said that for practical purposes cases of rectal cancer might be divided into three groups, viz.: 1, Cases in which the growths were small, hard, and at the lower part of the rectum; 2, cases of large, ulcerating, crater-like masses; 3, cases of disease rapidly spreading and involving all the surrounding structures. He would perform excision only in the case of a small, hard growth, freely movable, within three inches of the anus, and when one could pass the finger freely above it. A point was the rapidity with which the growth could be removed. An operation for excision of the rectum usually occupied forty-five minutes, but it could be done in ten.

A PROLONGED OPERATION MEANT MORE SUBSEQUENT COLLAPSE,

because the patient was losing blood all the time of the operation. It was better to operate rapidly and check bleeding with hot spirit and water, putting in a few ligatures if needful. He did not approve of Mr. Cripps' plan of completely isolating the bowel from surrounding structures. It was best to avoid stitching down the bowel; it was likely to cause cellulitis, and often one could not bring down the mucous membrane to the skin. Colotomy, when performed, ought to be done early, and the earlier the better. As soon as there was frequent diarrhœa, pain, and straining, it added to the comfort of the patient to perform colotomy. In the inguinal operation it was a good plan to make a good spur, so as to prevent the fæces from passing on, which should render the operation useless. He thought the growth of the cancer was slower when the fæces were cut off from it, and there was also less pain.

Dr. Ward Cousins, of Southsea, said we must separate the mortality from the immediate success. Many patients came too late. If a patient lived a year after operation he considered the operation was a success; but one of his patients had lived two and three-quarters, and another five and a half years after lumbar colotomy. In the inguinal operation there was the great advantage of having the patient on his back; there was also no difficulty in finding the intestine. In lumbar colotomy the peritoneum was generally opened, and a great disadvantage was the small extent of bowel which was accessible.

Mr. Vincent Jackson, of Wolverhampton, objected to the term "inguinal" as applied to anterior colotomy, which had nothing to do with the groin. He suggested the term

ILIAC COLOTOMY.

He thought the preceding speakers had minimized the discomfort (from atresia ani) following ablation of the rectum. This was a reason for carefully considering the operation of excision. For acute cases of obstruction he advised the lumbar operation, but it was only in those cases, or where the large bowel was so distended that there was a difficulty in operating, that the front operation was not desirable.

Mr. Bennett May, of Birmingham, said patients were apt to postpone the operation of colotomy till too late. In very acute forms of cancer it was hardly worth while having colotomy performed except for acute obstruction. It was best performed for chronic obstruction; one of his cases lived two and a half years after operation. Better results had been attained since the inguinal operation, which was easier, had been introduced and the operation done earlier. He had had thirteen cases. He still preferred the lumbar operation in cases where the bowel was much distended. In the inguinal operation, also, there was liable to be excessive prolapse or excessive contraction. A moderate degree of prolapse acted as a "spur;" he believed its degree depended upon the extent to which the lumbar fascia was opened. Mr. May related a case of colectomy in which the stitches gave way, and said he should not again attempt to join together the divided ends of bowel after removing the diseased portion, but should bring both the divided ends out through the wound. In the case he had just mentioned, although he had operated early (the cancer having been accidentally discovered after opening the abdomen to perform a different operation), there were enlarged glands in the mesentery, and considerable masses of cancer in the liver.

Mr. Jessett said there were few cases in which one was justified in performing proctectomy, and even then he would prefer to perform colotomy first, and then remove the rectum.

Mr. Rushton Parker, of Liverpool, said excision of the rectum was an operation rarely advised, and the few operations which had been done were due to individual enterprise. We could not always select our cases, for patients sometimes declined and sometimes sought operations; but some of the unfavorable cases turned out well. The disease should be low down to perform excision. He had performed two operations, removing the diseased part but leaving healthy bowel at the anus; both did well. He demurred to the view that we should limit excision to cases in which only the lower part of the rectum was involved, and mentioned a case in which he had performed

excision when the lower part of the growth was four inches from the anus. Dr. Alexander's plan of incising the rectum backward, and removing the coccyx, gave great access to the rectum. By drawing down the lateral ligaments of the rectum we drew down the rectum and could open it several inches from the anus. In the case just mentioned the growth extended along the bowel for five inches, and his impression was that he divided the rectum about twelve inches from the anus. As to colotomy, by attending to diet, etc., patients could do a great deal to prevent obstruction from occurring, and thus obviate the necessity for it.

DR. INGLIS PARSONS then spoke of the value of

ELECTRICITY IN CANCER OF THE RECTUM.

One electrode was passed through the diseased portion, and another into the ischio-rectal fossa.

PROFESSOR TREUDELENBERG spoke of the advantage of operating not wholly by the knife, but partly by the fingers. Where the cancer was fixed, colotomy was the preferable operation, and the most convenient both to the patient and the surgeon. Some patients might live for twelve or thirteen years.

Mr. Lawford Knaggs and Mr. Stanmore Bishop having also spoken, the President replied, and the discussion concluded.

MR. MAYO ROBSON, of Leeds, then showed a patient on whom he had successfully performed

CHOLECYSTENTEROSTOMY

for biliary fistula. The patient had had abdominal section performed upon her three times. The first operation was for pyosalpinx, and was performed five years ago. Eighteen months ago the abdomen was again opened for acute peritonitis, with pus in the gall-bladder. The bile finally came away through the wound, and a biliary fistula resulted. From thirty to forty ounces of bile daily escaped on to the surface of the abdomen. To remedy this condition the abdomen was opened again, and the gall-bladder attached to the colon by a double row of sutures; the original opening in the gall-bladder was then sutured. Mr. Rob son said he could find no record of a case of biliary fistula previously cured. An operation had been proposed by a German surgeon for a case of obstruction of the common duct, but it was not carried out. He employed Lembert's suture to attach the gall-bladder to the intestine, but the opening in the gall-bladder was closed by a continuous suture.

DR. EASTES, of Folkestone, having narrated a case, MR. RUSHTON PARKER then read a paper on a case of

CEREBRAL TUMOR SUCCESSFULLY REMOVED.

The patient was a man, thirty-eight years of age, who suffered from long-standing headaches and weakness of the left arm and leg. There was no optic neuritis. No results followed the administration of iodide of potassium. It was not necessary to localize the tumor as there was a puffy swelling in front of the right parietal eminence, which was considered to indicate its position. The operation was successful, and subsequent examination of the growth convinced him that it was a gumma.

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## SECTION OF OBSTETRICS AND GYNECOLOGY.

WEDNESDAY, AUGUST 14TH—FIRST DAY.

DR. CHARLES J. CULLINGWORTH, President of the Section, delivered the opening address, taking for his subject

THE APPLICATIONS OF ANTISEPTIC PRINCIPLES TO MIDWIFERY PRACTICE.

His remarks were supplementary, he said, to an address which he delivered at the opening of St. Thomas' Hospital Medical School a year ago. Antiseptic cleanliness does not consist merely in the use of some chemical disinfectant, important though that may be. But the very fact that the use of certain chemicals forms an essential part of the antiseptic method contributes to the danger of trusting to them too implicitly to the exclusion of other means of insuring surgical cleanliness. The latter may be subsidiary, but they are none the less of the greatest importance.

FREQUENT VAGINAL EXAMINATIONS SHOULD BE AVOIDED,

especially during the first stage of labor, for they are unnecessary after the diagnosis of the presentation has once been made, and only expose the patient to the danger of infection. At the Dresden Lying-in Hospital, during the years 1886–87, the number of cases admitted in whom, because of the very rapid progress of labor, or for any other reason, no vaginal examination was made was 248. Of these cases 242 made an absolutely normal recovery. The remaining 6 had slight troubles of one sort or another demanding their retention in the hospital for a few days beyond the normal time, but among them all there was not a single case of parametritis.

Another point of prime importance is

THE THOROUGH EMPTYING OF THE UTERUS

after labor or abortion. Retained matters offer a most fruitful evil for the propagation of pathogenic micro-organisms which have once gained entrance. Although the speaker did not believe in the possibility of self-infection, yet he looked upon the retention of portions of membrana placenta with as much apprehension as those who did so believe. The secundines should, therefore, be carefully examined after their expulsion, and if any part were found missing no time should be lost in exploring the uterus in order to remove it.

THE PATIENT SHOULD BE ALLOWED TO SIT UP IN BED.

This is contrary to the generally accepted teaching of the present day, yet it is merely an application of the antiseptic principle of drainage to midwifery practice. In all normal cases the speaker allowed his patients to sit up in bed occasionally, for a few minutes at a time, on the second or third day. This was in the line of practice recommended more than a century ago by Charles White, of Manchester, but it was not carried to the full extent of his recommendation.

Other points to which the speaker referred were the immediate repair of all perineal lacerations of any magnitude, and the substitution of gauze-bags of sublimate wood-wool in place of the traditional linen diaper.

THE CARE OF THE CHILD

was then dwelt upon at some length. Our zeal for the safety and well-being of the mother should not, he said, make us forgetful of the new-born infant. Antiseptic principles could be usefully applied to the management of the child in two ways, viz., in the prevention of ophthalmia and in the dressing of the remains of the umbilical cord. In the

PREVENTION OF OPHTHALMIA NEONATORUM

the speaker recommended, in addition to the wiping of the child's eyes with a clean cloth as soon as the head was born, and if possible before the eyes were opened, the application of a solution of corrosive sublimate (1 in 3,000) by squeezing over each eye a saturated pledget of cotton wool immediately after the first washing. Credé's method of dropping in a two per cent. solution of silver nitrate need only be adopted in cases where the mother was known to have suffered from a purulent vaginal discharge. The report of a committee of the Ophthalmological Society showed that from thirty to forty per cent. of the inmates of blind institutions in Great Britain and Ireland owed their blindness to purulent ophthalmia in their infancy; hence it was not unreasonable to infer that, by the adoption of the means of prevention here suggested, the amount of blindness at present existing might be diminished by one-third.

The second point in relation to the infant was

THE DRESSING OF THE REMAINS OF THE UMBILICAL CORD.

After the cord has been divided, the stump shrivels up and is finally thrown off, leaving a small, raw surface, analogous to the placental wound in the uterus of the mother, which should be as rigorously protected from the risk of septic infection.

The objects to be aimed at were to secure (1) the normal desiccation of the cord before its separation, and (2) an aseptic condition of the wound left when separation has taken place. The method recommended was, after drying the surface of the cord, to powder it plentifully with powdered starch, and wrap it in a square of antiseptic gauze. The umbilical wound should be dusted freely with finely powdered boric acid, and covered with a pad of dry absorbent wool.

In closing, Dr. Cullingworth sketched out the work which the Section had before it, and made an allusion to

THE COMBATIVENESS OF GYNECOLOGISTS.

It is true, he said, that the workers in this field are somewhat combative, and sometimes perhaps even a little wanting in forbearance toward those who differed with them. The reason of this is partly beause the study of gynecology is new, and men are still almost completely in the dark as to the pathology of some of the most common affections to which women are liable. When gynecologists know more, they will differ less. It is imperfection of knowledge that lies at the root of disputatious differences of opinion.

Dr. Braxton Hicks read a paper on the treatment of

PLACENTA PRÆVIA.

He recommended that pregnancy be terminated as soon as possible after the diagnosis of placenta prævia had been made, and said that once treatment has been begun, the patient should not be left until delivery has been accomplished. He formulated the following rules to serve as a guide in the conduct of these cases:

If the os be expanded and the placenta marginal, rupture the membranes and wait to see if the head is soon pushed into the os. If there be any slowness in this respect, employ forceps or version. If the os be small, detach the placenta from round the os, and if no further bleeding occurs, we may wait an hour or two; but should the os not expand, and if dilating bags are at hand, the os may be dilated. If it appears that the forceps can be admitted easily, they may be used; but if not, version by the combined internal and external method should be employed, and the os plugged by the leg and breech of the fœtus. After this is done the case may be left to nature, with gentle assistance, as in footling and breech cases. If the os be small, and if we have neither forceps nor dilating bags, then combined version should be resorted to, leaving the rest to nature, gently assisted. If, during any of the above manœuvres, sharp bleeding should come on, it is best to turn by the combined method in order to plug by breech.

The after-treatment should be conducted according to the modern antiseptic methods. Should oozing occur after expulsion of the placenta, swab the lower part of the uterus by styptics, and irrigate the uterus daily with some antiseptic solution. If irrigation cannot be done, iodoform pessaries should be inserted into the vagina. This is especially useful if the outlet of the uterus is blocked by adherent clots.

Dr. Murphy, of Sunderland, said that it was exceedingly hazardous to allow any case of placenta prævia to go untreated, and insisted that premature labor should be induced as soon as it is ascertained that the placenta presents, after the seventh month of pregnancy, and even before this should bleeding be serious or frequently recurring. He advised the constant presence of the medical attendant during the whole period of labor. Labor should be induced by Barnes' bags, and then the question must be decided how further to conduct it. Generally separation of the placenta, full dilatation of the os, and bipolar version would give the best results. He submitted a table of thirty-eight cases, with thirty-two consecutive recoveries. Two, only, of the cases had resulted fatally.

Dr. Lomer sent a letter, in which he advocated very strongly the method proposed by Dr. Hicks. The writer had treated twenty-eight cases by the combined method of turning, and had had but one death Thirteen of the children had been saved. After turning he made it a practice to wait, and regarded the case as one of simple foot-presentation.

TURN EARLY, BUT DO NOT EXTRACT,

was a maxim upon which he would lay special stress. Should hemorrhage continue, he made some traction on the foot so as to bring down the breech more firmly against the parts from which the bleeding occurred. The object of his traction was, however, merely to make the child act as a tampon, and was not meant to hasten delivery.

Dr. Robert Barnes began by saying that the treat ment of placenta prævia was a physiological proceeding, and that the placenta, when it occupied the lower zone of the uterus must be displaced. To do this the os must be first dilated and the membranes should be ruptured. For the purposes of dilatation he advocated the use of the bags that went by his name. He was of the opinion that detaching the placenta does not increase risk to the child. Placenta prævia, he pointed out, was a complication that when once it occurred was liable to recur in the same patient.

Dr. Robert Harvey, of Bengal, drew attention to the risk of the routine practice of rupturing the membranes, as a fresh and fatal effusion of blood sometimes took the place of the liquor amnii that had been evacuated.

Dr. More Madden described the old plan of plugging the vagina after rupturing the membrane.

Dr. Murdoch Cameron drew attention to the necessity of using new dilating bags, as the india-rubber in old ones was so liable to give way. In turning he is most particular not to insert his hand into the uterus.

Dr. A. W. Johnstone, of Danville, U. S. A., read a paper on

THE MECHANICS OF PUBERTY.

This, he explained, referred to the growth of sexual ornaments, showing that hair and feathers grow from the same kind of texture as that which lines the body of the uterus. Puberty is brought about, he said, by a general stimulation of this lymphoid tissue, and that it is its exhaustion that causes the feebleness of old age, such as change of life, and loss of permanent teeth, and senile alopecia. He exhibited drawings showing that epithelial was replaced by cell growth of connective tissue. His view explained the source of repair for the monthly loss of endometric epithelium, which is merely the lymph corpuscles of the endometrium assuming the characters of epithelium.

Dr. More Madden read a paper on

SOME POINTS IN THE TREATMENT OF UTERINE CANCER.

He thought that the disease was on the increase, and that it originates in the cervix uteri. He therefore advised timely removal of this portion. The alterative, he said, was the thermo-cautery, which was merely an improvement on the escharotics formerly employed. He traced the origin of the disease to pathological changes resulting from partial lacerations which gave rise to inflammation, and the first stage of cancer was, he thought, inflammatory. In the cases that could be traced to their end he said the disease was generally found to recur, but in fourteen of Dr. Madden's cases of removal of the cervix the result was satisfactory. He advises the cautious employment of the curette as a means of diagnosis, and advocates early removal of the intra-vaginal portion of the cervix, instead of removing the whole uterus at a latter period.

Dr. J. Stuart Nairne then read a paper on

SOME PRACTICAL POINTS IN THE SURGICAL TREATMENT OF CANCER OF THE UTERUS.

He first alluded to the symptoms of the disease, such as hemorrhage, pain, and weight in the loins, the appearance of a new-growth, the odor, etc. He referred to a series of cases which had been operated on by removal of the uterus at periods varying from eighteen to six months ago. A case of the first-named date he regarded as safe, and one of the last-named as hopeful, if there were no signs of a return of the disease. Dr. Nairne uses rectangular dilators. He scoops out the uterus and excavates till almost nothing but its peritoneal covering remains. Much alleviation is the result of these operations, and, even if nothing else was obtained, euthanasia was secured, which alone was in such cases a consummation devoutly to be wished for.

Dr. W. J. Sinclair, of Manchester, alluded to the great mortality in cancer of the uterus. In operating in such cases he now enucleates the organ, *i.e.*, he drags it down and ties it bit by bit. He drew attention to the necessity of diagnosing carefully between cancer and erosion. The sharp spoon, he said, was an effectual means of effecting a diagnosis. In the case of cancer the *débris* brought away was unmistakable, and in cases of erosion nothing but blood was taken out.

Dr. William Walter thought that if removal of the disease by operative interference was had recourse to, the whole uterus should be removed, just as you would remove the whole of a breast attacked by cancer.

The President thought the latest statistics of total extirpation of the uterus were encouraging, and said that fifty-two cases had lately been operated on in this way in Dresden without a death.

Dr. Peter Horrocks had seen a uterus removed for suspected cancer which turned out to be merely chronic endometritis. He regarded the German statistics as doubtful.

Dr. Robert Barnes also thought these statistics unreliable, and said that many cases pronounced to be cancer were really not cancerous.

The President, in speaking of the use of powerful galvanic currents, now recommended, narrated a case in which the patient died under the operation as if struck by lightning.

(To be continued.)

## INTERNATIONAL CONGRESS OF DERMATOLOGY AND SYPHILOGRAPHY.

*Held in Paris, France, August* 5, 6, 7, 8, 9, *and* 10, 1889.

(Special Report for The Medical Record.)

(Continued from page 277.)

DISCUSSION ON RINGWORM.

Dr. Butte, of Paris, related the method employed by Quinquaud and himself in the treatment of tinea tonsurans. It consisted simply in the application of a one per cent. ointment of protochloride of iodine in lanoline. Every second day the head is sprayed with warm water, and then it is dried and rubbed for some time with this ointment. It is possible by this means to cure ringworm of the scalp within a few months without resorting to epilation.

Dr. Quinquaud, of Paris, said that the method just referred to had produced excellent results in his hands. Another plan was to cut the hair very short, shampoo the head every morning, and then apply a lotion of biniodide of mercury, 3 grains; bichloride of mercury, 15 grains; alcohol, 10 drachms; distilled water, 8 ounces. After that the affected parts are scraped with a special form of curette. At the end of a week, during which time this process may have been repeated once or twice, the hairs are pulled out. Epilation is accomplished much more easily now, since the previous treatment has made the hairs much less brittle. The scraping is repeated every week or two, and in the intervals a plaster of the biniodide and bichloride of mercury is applied. A cure is thus obtained in three or four months. The children usually bear the scraping very well.

Dr. Besnier, of Paris, asked whether such vigorous treatment did not occasion a pretty active dermatitis. He had seen several cases of partial alopecia following a dermatitis caused by too active treatment of ringworm of the scalp. His plan was to cut the hair close, epilate for some distance around the seat of disease, and then apply borated vaseline. The head was washed every morning with bran-water before the application of the ointment.

Dr. Quinquaud replied that the lotion used by him caused very little irritation. There was a little redness observed for a day or two, but that was all. The plaster usually brought out a few pustules, but they caused very little inconvenience. It was well to stop all treatment from time to time in order to avoid too much irritation, but this was not always necessary, as the scalp usually became quite tolerant after a few weeks.

Dr. Besnier said that he would try this method on the strength of Dr. Quinquaud's recommendation. It should be remembered, however, that this disease was very irregular in its course. It sometimes lasted a year or two, and might again disappear spontaneously in two or three months. He recalled two cases which he had seen several years ago. The mother of the children asked him how long the disease would last, and he had replied that it was impossible to say. Six weeks later the children were brought to him again, entirely healed, and the mother said that they had been cured by Dr. Unna.

Dr. Unna, of Hamburg, said that he could not recall what treatment he had employed in this particular instance. But if the disease had disappeared so rapidly it was a matter of spontaneous cure, and could not be justly attributed to his treatment. He agreed with the last speaker as to the irregularity in the course of a ringworm. He believed, however, that it was possible to employ parasiticides which would attack the fungus without destroying at the same time the tissue in which it grew.

Dr. Vidal, of Paris, said that it was an easy matter to destroy the tricophyton when seated on the non-hairy parts. Here it was superficial, and anything that would remove the epidermis would remove also the parasite. But when the tricophyton had penetrated into the hair-follicles the matter was very different. Epilation was a delusion, for if the hair was diseased it always broke off, and only the healthy hairs could be extracted. He had made some experiments to determine the nature of this parasite, and had found that it was aërobic. Therefore if it could be deprived of oxygen it would perish. This could be accomplished by simply covering the part with vaseline. He used an ointment of iodine in vaseline (1–100), applied every day or every other day, and covered it with gutta-percha tissue, and had obtained very good results. A cure was effected in this way much more speedily than when epilation was resorted to.

Dr. Hallopeau had employed a similar mode of treatment, and was very well pleased with the results obtained.

Dr. Drysdale, of London, said that the disease was very variable in point of severity and resistance to treatment. He insisted on frequent washing of the affected part, and then used applications of tincture of iodine.

Dr. Hans Hebra said that the disease under discussion was uncommon in Vienna, and

BARBER'S ITCH

especially was very rare. He recommended the employment of a ten per cent. ointment of pyrogallic acid, by means of which, he said, a complete cure could be obtained in the course of three or four weeks.

Dr. Besnier, in concluding the discussion, said the

geographical distribution of the parastic diseases of the scalp afforded ground for much study, and its peculiarities had yet to be satisfactorily explained. Favus, for example, was never found among those residing in Paris proper, but in its environs, in country districts, and even in other large cities of France, such as Lyons, it was quite frequently met with. On the other hand, ringworm of the scalp, a very common affection in Paris, was comparatively rarely seen outside of the city. He spoke rather despondently of the therapy of ringworm of the hairy parts, and agreed with Unna in believing that a cure was usually spontaneous rather than a direct result of treatment.

DISCUSSION ON TERTIARY SYPHILIS,

including (1) the relative frequency of tertiary syphilis and (2) the conditions favorable to its development.

DR. NEUMANN, of Vienna, read a paper in which he considered the principal conditions which favored the development of tertiary symptoms. The chief of these was a neglect of mercurial treatment. It was true that cases were met with now and then which had been allowed to go untreated, and yet escaped all tertiary troubles; yet these were exceptional. Even though there had been some treatment, if this were not sufficiently active, nor long enough continued, tertiary symptoms might show themselves. Certain constitutional affections, such as malaria, tuberculosis, or diabetes, were factors in causing the apparition of tertiary phenomena, and so also were any conditions, such as alcoholism, unhealthy surroundings, old age, which tended to weaken the organism and render it less able to resist disease of any kind. Tertiary syphilis might, indeed, be seen in persons of good general health, who had received proper treatment, but it was far more common in those who had not been treated Its occurrence was in nowise dependent upon the form or virulence of the initial sore, or of the secondary manifestations.

DR. DRYSDALE had found in his own experience that the proportion of those who develop tertiary symptoms, when not treated by mercury, is eight out of every hundred. For several years he had not used mercury in the treatment of syphilis, but had lately returned to it, as it seemed to him to possess some real power in preventing tertiary manifestations, although he could not agree with Dr. Henry Lee that it was possible to cure syphilis absolutely by means of calomel fumigations. He did not believe that it was possible to form any prognosis from the appearance of the initial lesion. Nor was age a factor of any value in this regard, except that infants suffered much more severely than others.

DR. MAURIAC, of Paris, said that little could be learned from the appearance of the chancre concerning the future course of the disease. A phagedenic sore was usually followed by pretty severe secondary symptoms, but not necessarily by any tertiary manifestations. The proportion of those who suffered from tertiary symptoms was rather hard to determine, and as near an estimate as he could make was that from eighty-five to ninety-five out of every hundred escaped. The time for the appearance of tertiary phenomena was very variable and uncertain; they might come during the first year, or within a few months, and their apparition might be delayed for forty or fifty years. The average period might be set down as from the third to the sixth year. In some cases of visceral syphilis the interval was very short. The most common tertiary manifestations were those of the skin, subcutaneous connective tissue, and mucous membranes, and of the visceral forms of the disease the most important, by far, was syphilitic disease of the nervous system.

DR. FOURNIER, of Paris, in considering the time of appearance of the tertiary symptoms, said that he based his statements upon an analysis of 2,595 cases occurring in his own practice. According to these statistics the tertiary phenomena appeared with greatest frequency from the first to the third year after infection, the maximum being in the third year. From the fourth to the twentieth year it decreased gradually; between the twentieth and thirtieth years few cases were found, and it was very rare, although such cases did occur, for tertiary syphilis to show itself for the first time over thirty years after infection. The other extreme was also uncommon, nevertheless the speaker had seen 129 cases in which the tertiary manifestations were noted during the first year. As to the lesions of this stage of syphilis, the nervous affections predominated. Among his cases 1,085 were cases of syphilis of the nervous system, or, excluding locomotor ataxia (which was indirectly, if not directly, dependent upon syphilis), the number was 681. The syphilitic poison was therefore pre-eminently one acting upon the nervous system.

DR. HASLUND, of Copenhagen, presented the statistics of 600 cases occurring in his own practice. Of these 444 had either not been treated at all or had been poorly treated. In a very large proportion of cases the tertiary symptoms appeared during the first twelve years after infection. In point of frequency the cutaneous lesions held the first rank, then came the nervous system, and after that the bones and the internal organs. It had been asserted that tertiary phenomena were more common in those cases in which the lesion was extragenital, but this was due, he thought, simply to the fact that the true nature of such lesions was liable to pass undetected, and consequently the patients were not treated properly. Persons weakened by alcoholic or other excesses, or by chronic malaria, were most apt to suffer from tertiary lesions.

DR. LELOIR, of Lille, thought the division of syphilis into stages on a chronological basis was incorrect. It was not the time of appearance, but the character, of the lesion that was significant. The characteristic peculiarity of tertiary lesions was that they were essentially destructive in their nature, whereas the so-called secondary phenomena were not.

DR. VAJDA, of Vienna, said that of 632 patients with tertiary syphilis admitted to hospital in Vienna during the years 1870–77, sixty-two per cent. were found not to have had any treatment at all. The average time of appearance of the tertiary symptoms was three years and seven months after infection for those not treated, and six years and four months for those who had been treated during the earlier stages.

DR. ZAMBACO PACHA, of Constantinople, said that in his work on syphilis of the nervous system, published seven years ago, he had called attention to the remarkable frequency with which this part was attacked. His statements met with considerable opposition at the time, and he had been pleased to have them confirmed so fully by Dr. Fournier in his remarks before the Congress.

DISCUSSION ON THE TREATMENT OF SYPHILIS.

DR. MCCALL ANDERSON, of Glasgow, said that antisyhilitic treatment should be begun as soon as the symptoms of the disease had declared themselves unmistakably, but not before. The general health should be carefully looked after, but the exhibition of tonics must not be allowed to take the place of mercury and the iodides. It was incorrect, he said, to assert that mercury is useful only in the earlier stages, for it often produced the happiest results in tertiary syphilis, especially of the nervous system, after the iodides had been tried without avail. The mercurial treatment need not be interrupted unless the patient gives evidences of hydrargyrism. He preferred inunctions or injections, when practicable, to the exhibition of the drug by the mouth. The treatment should be continued for a year after all symptoms have disappeared, but even then it was not safe to pronounce the cure absolute. He advised a mercurial course extending over three or four months prior to the marriage of one who had had syphilis.

DR. LANGLEBERT, Jr., of Paris, said that the mercurial treatment should be begun only on the appearance of the

prodromes of the secondary stage (headache, fever, etc.), and should be continued during the entire eruptive period. He employed mercury only to combat the cutaneous and mucous manifestations of syphilis, and never gave it in the intervals of freedom, since he regarded the drug as powerless to prevent any of the secondary or tertiary phenomena, and of service only during the stage of evolution of these symptoms. The iodides, on the other hand, might be prescribed at any time, and were pre-eminently the remedy for chronic syphilis. The average duration of treatment by the iodides should be about three years, and it should be begun only after the first eruption of the secondary stage. The mixed treatment may be preferable during the first period of the tertiary manifestations, but a cure in this stage can be obtained only by the use of the iodides for a long period of time. Tonic remedies, such as arsenic, iron, quinine, and sulphur, are of great value, although of secondary importance in comparison with mercury and the iodides.

Dr. Leloir, of Lille, read a paper, prepared by himself and Dr. Tavernier, on

MERCURIAL INJECTIONS

in the treatment of syphilis. The authors had practised 1,573 injections during two years; the drugs employed being calomel, yellow oxide of mercury, and gray oil. Of these the calomel acted the most, and gray oil the least, effectively. The injections were of most service in the secondary cutaneous lesions; but were of little or no use in mucous patches. Tertiary lesions uniformly resisted their action, and could be controlled only by inunctions and by local mercurial treatment. The disadvantages of this method of treatment were so great that it could seldom be employed in private practice. The most important of the evil effects observed were: Local pain of considerable intensity, lasting sometimes from one to nine days, or longer; paresis of the lower extremities; headache and vertigo; slight mercurialism; and a painful, non-suppurating tumor at the site of the injection. One curious fact, that was several times observed, was an eruption of mucous patches occurring four or five days after an injection. The injections ought not to be used in cases of cerebral or spinal syphilis, and were serviceable only in those cases of cutaneous syphilis in which a rapid cure of the eruption is especially desired. Relapses were very common after treatment by injections.

Dr. Jullien, of Paris, had seen a number of cases of

DILATATION OF THE STOMACH IN TERTIARY SYPHILIS,

and he thought a knowledge of the existence of this trouble was of considerable importance, for he believed it might be the cause of many of the nervous symptoms commonly attributed directly to the action of the syphilitic poison. He advised that treatment be directed first to the dyspepsia in these cases, and said that oftentimes the headache, vertigo, and mental troubles, which were thought to be syphilitic in their nature, would then disappear. The dilatation might be caused, he thought, by the drugs employed, especially the iodides, and he therefore regarded these cases as specially suited to treatment by injections.

Dr. Diday, of Lyons, was opposed to a continuous course of treatment, and thought it better to give mercury only during the presence of symptoms, for it was at this time that the bacillus was most injurious in its effects, and also most accessible to the action of parasiticides. The advantages of employing antisyphilitic remedies in this manner the speaker summarized as follows: 1, More prompt curative effects are obtained; 2, it will not be necessary to give such large and harmful doses during a fresh outbreak as it would be had the remedy been taken continuously; 3, since the treatment is made to depend directly upon the symptoms, the latter are more carefully watched, and thus the physician obtains a better knowledge of his case than he would otherwise have; 4, not attributing any prophylactic power to the so-called specific remedies, the physician will have made no promises to the patient, and will therefore not be held responsible when fresh symptoms appear; 5, a certain period of freedom from all symptoms, while no remedies have been employed, gives the patient a greater confidence in the permanence of his cure than he would have had, had he been taking medicine continuously.

Dr. Schwimmer, of Budapest, was decidedly opposed to the plan advocated by Leloir, of waiting until unmistakable symptoms had developed before commencing treatment. Syphilis was like any other disease, in that it ought to be treated as soon as it was recognized, and it was bad practice to wait until it had acquired its full development before attacking it. The treatment should be varied, he said, according to the race and climate, and it was not reasonable to insist upon a rigid plan to be followed by everybody everywhere. He had never seen any evil results follow the injection of calomel. He had before recommended salicylate of mercury as preferable to the bichloride, and he took occasion to refer again to its superiority in the treatment of syphilis, though he did not think it was as active as calomel employed hypodermically. He had not had much success with the thymate of mercury which had been recently recommended.

Dr. Neumann, of Vienna, began treatment as soon as the first positive signs of the disease were manifest, and continued it uninterruptedly long after the secondary symptoms had disappeared. He preferred mercurial inunctions to injections.

Dr. Kaposi, of Vienna, was strongly opposed to injections, which he regarded as altogether unscientific. In the case of a woman who had died in his service from acute mercurial poisoning following two injections of gray oil, an examination showed that a large part of the mercury had not been absorbed. Thus, in a similar case, if symptoms of hydrargyrism appeared, it would be impossible to withdraw the mercury at once, since there would be a reservoir in the tissues at the sites of injection from which absorption would be continually taking place. The speaker preferred inunctions.

Dr. Schüster, of Aix-la-Chapelle, was opposed to the injection of insoluble salts of mercury, which had never given any good results in his hands.

Dr. Castello, of Madrid, began treatment immediately upon being sure of his diagnosis, and continued it for some time after the disappearance of all symptoms.

Dr. Rosolimos, of Athens, said that cases were occasionally met with in which mercury, administered in all the different ways, failed to produce any effect. In such cases injections were indicated. He believed that injections were more efficacious in preventing relapses than were other methods of treatment. Abscesses might be prevented by making the injections on the rounded parts of the back, and the pain in this region was also less marked.

Dr. Pétrini, of Bucharest, had lately made a pretty extensive trial of tannate of mercury, and had been pleased with its action. His plan was to begin treatment as soon as the diagnosis had been made, commencing with one and a half grain of tannate of mercury per diem, increasing it at the end of ten days to three grains, and continuing the treatment for twenty-five or thirty days. All his cases so treated had done well, stomatitis being but rarely met with.

Dr. Mauriac, of Paris, preferred to commence giving mercury by the mouth, reserving inunctions and injections for particular cases.

Dr. de Watraszewski, of Warsaw, was opposed to injections of mercurial salts, since they are apt to produce considerable irritation locally, and if introduced into the circulation may give rise to symptoms of acute poisoning, or may be followed by serious pulmonary trouble. In some experiments made upon cats, he found that either gray oil or the yellow oxide of mercury, when introduced into a vein, caused very extensive lobular hepatization, the trouble being most marked when the yellow oxide was used. The vaseline used to hold the mercurial in suspen-

sion had much to do with these evil effects, for when mucilage was employed as the menstruum the pulmonary troubles were much less marked. This was due to the fact that the mucilage mixed readily with the blood, while the vaseline did not, and was carried to the lungs holding suspended in it the mercury.

DR. DU CASTEL, of Paris, was opposed to mercurial injections, being unable to see that they possessed any special advantages over other methods of administering the drug, and fearing the effects upon the kidneys and brain of mercury introduced so directly into the circulation.

DR. BALZER, of Paris, had never seen any injurious effects from injections of mercurial salts, and believed that they were very useful in certain cases.

DR. BERTORELLI, of Milan, said that he often had recourse to calomel injections, and he had been surprised to hear so much said against this method of treatment. It was employed quite extensively in Italy.

DR. BARTHÉLEMY, of Paris, looked upon injections as most suitable in certain cases, especially in hospital practice, but it could be employed only exceptionally.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, May 22, 1889.*

WILLIAM P. NORTHRUP, M.D., PRESIDENT, IN THE CHAIR.

DR. H. J. BOLDT presented a specimen of

### PERFORATION OF THE VERMIFORM APPENDIX.

The patient, nine years of age, had, according to the history given, always enjoyed good health until the night of May 6th. He was seen early on the 7th, complaining only of diarrhœa, and had some vomiting; no pain. Examination, however, showed tenderness and tumefaction in the right iliac fossa. The diagnosis of perityphlitis and typhlitis was made. Ice-bags were applied, proper diet ordered, etc. The child had done very well under treatment, and was thought to be out of danger, both temperature and pulse having reached a normal point by the 10th. About noon, though, the patient experienced a sudden pain, radiating over the whole abdomen. When seen several hours later he presented the characteristic picture of one suffering from perforative peritonitis, the diagnosis of which was made, and it was assumed that a perforation of the appendix took place at the time when the pain was felt. He then seemed in fair condition for operation, yet by the time that preparations for such were made, collapse was so marked that it was desisted from, and the patient died a few hours subsequently. The autopsy showed the peritonitis to be very recent, and the perforation to be due to fecal concretions. The portion of appendix in the vicinity of the perforation was gangrenous. The pelvis contained pus.

The interesting features are that apparently the case was progressing so very favorably, and that it sank so rapidly after occurrence of the perforation. Although the history did not elicit any previous symptoms, yet the speaker was confident that all these cases have had them, and they were left unnoticed. The majority of cases will go to a favorable termination, without operative interference, by proper treatment, consisting of rest, the ice-bag, and diet. Medication is seldom required; yet one should be on the alert, when having such a patient in charge, to be ready for operation should necessity require it.

Dr. Boldt had seen in the same patients several attacks of perityphlitis and typhlitis in the course of two years, and then finally a perforation of the appendix occur which terminated fatally. Such cases are not unusual.

DR. C. N. DOWD said that the case just related recalled one that he saw about a year ago in one of the house-staff of Roosevelt Hospital. He suffered for about three weeks from symptoms of intestinal trouble, and then signs of perityphlitis appeared. About a pint of pus was found in the pelvis, and there was complete perforation. The vermiform appendix was gangrenous, and the appearances presented were as though there had been a strangulation.

DR. VAN SANTVOORD said that Mr. Frederick Treves had found evidence of previous inflammation of the vermiform appendix in about one-third of the autopsies made by him. This would seem to show that many people have trouble in or near the vermiform appendix at some period of their lives.

THE PRESIDENT asked Dr. Boldt what premonitory symptoms he had observed.

DR. BOLDT replied that there were occasional attacks of pain lasting for four or five days, then passing away, and recurring at intervals of a few days. Constipation was also present.

DR. S. T. ARMSTRONG asked whether the experience of the members of the Society was in accord with that of Mr. Treves. He had had only two cases of perityphlitis in a hospital experience of eleven years, and it had been rare in his experience to find evidences at autopsy of past inflammation in the region of the vermiform appendix.

DR. H. P. LOOMIS said that during the last four years he had taken special note of the condition of the vermiform appendix in all autopsies made by him, and in only a very small proportion of cases had he found evidences of old trouble in that region.

THE PRESIDENT said that he had recently followed a case of perityphlitis in a very young patient. There was a tumor over the cæcum, which subsequently passed away. Pus was found on exploratory puncture. He was wondering whether they ought to be on the lookout for future trouble in this case.

### SUPPOSED ULCER OF THE BLADDER.

DR. ARMSTRONG presented a bladder, removed from the body of a man on whom suprapubic cystotomy had been performed in the early part of last September. The patient was admitted to hospital for hæmaturia following a gonorrhœa. An examination with the cystoscope showed what was supposed to be an ulcer in the wall of the bladder; but when the bladder was opened by the suprapubic operation the spot was found not to be an ulcer but simply a furrow in the mucous membrane. The hemorrhage came from the kidney.

Dr. Armstrong then presented a second specimen showing

### ANEURISM OF THE AORTA WITH EROSION OF THE TRACHEA.

The patient was admitted to the Marine Hospital with a diagnosis of Bright's disease and pulmonary tuberculosis. He had had pneumonia four years ago, and dated his present illness from that time. In March of this year he was suddenly seized with a violent hemorrhage, and died instantly. At the autopsy old pleuritic adhesions were found. Arising from the ascending portion of the arch of the aorta was a sac containing fibrin. It had produced ulceration of the trachea, but the opening had been completely closed by a clot. A subsequent erosion of the bronchus had caused the hemorrhage from which death resulted. The aneurism had not been diagnosticated during life. This was the second case of rupture of an aneurism which had occurred in the hospital within six months.

DR. L. H. SAYRE presented a portion of a child's tibia and some slides for microscopical examination showing the lesions of

### RAREFYING OSTEITIS.

The specimens were removed by operation from the leg of a child, nine years of age. The child was born of healthy parentage, at the seventh month. When three years of age the patient sustained a fracture of the right tibia, at the middle third, while he was being jumped on the floor. The fragments united at a sharp angle, and the bone was subsequently refractured, and an apparatus

making pressure over the seat of deformity was applied, which caused ulceration at this point. The child was brought to New York in order to have what was supposed to be a lateral twisting of the tibia straightened. Examination revealed an enlargement of the leg in which there was an obscure sense of fluctuation. An exploratory incision was made over this enlarged part, and the bone was found to be very much softened. A small piece was removed with a trephine and presented the appearance of a malignant growth. It was sent to a microscopist for examination, and the first report from him was that it was a giant-cell sarcoma; but just before the time set for operation he made another report saying that he was not certain of its malignant character. Dr. Sayre excised the tibia about ten days ago, and the child has done very well since the operation. The speaker was of the opinion that the case was one of osteomyelitis followed by rarefying osteitis. He asked that the specimens be referred to the Committee on Microscopy for examination.

Dr. Van Gieson, from this committee, subsequently reported that the specimens showed the lesions of rarefying osteitis.

Dr. Van Gieson then demonstrated a

MEYNERT'S BASAL SECTION OF THE BRAIN,

and also presented a card specimen of empyema, in which there was a heart-shaped

UNILOCULAR EMPYEMIC SAC,

weighing nine hundred and fifty grammes, filling the lower right pleural cavity.

Dr. Wm. P. Northrup presented a specimen illustrating

SCORBUTUS IN AN INFANT.

The patient was a female child, eighteen months of age. One month before death the right leg and knee became swollen and tender. Temperature was 101° F. After two days the symptoms disappeared.

Two weeks before death the child began to seem sick; her gums were swollen and blackened, and bled freely. Two days later her left eyelid became black and swollen —temperature still 101° F. One week before death her pulse became 160 per minute, respirations 50, temperature 103° F., and physical signs of pneumonia developed. At this time her right eyelid showed ecchymosis, and there was marked swelling of the left thigh. During the remaining days of life her passages became black and pasty; the child was very anæmic, failed rapidly under symptoms of pneumonia, and died. No other ecchymoses were seen, and no evidences of syphilis. Child was wet-nursed the first sixteen months of life, but on account of impaired nutrition was taken from the breast and was also given vegetable acids.

For a full description of the cases of which this is a typical example, see Eustace Smith's "Diseases of Children."

*Autopsy.*—Child well nourished. Left thigh symmetrically enlarged and larger than right, though both seemed disproportionately large. Left femur was normal at its upper extremity, epiphysis, and end of shaft; but the lower remaining portion was invested all about with a layer of black clotted blood, having a uniform thickness of 2 to 3 mm. This lay between the bone and its periosteum. The lower epiphysis was separated, and the end of the shaft eroded and softened. A similar dark layer, though less thick, separated the periosteum from the right femur. Right and left tibiæ were surrounded by a thin, dark, hemorrhagic zone beneath the periosteum, and the shafts of these bones at their upper ends and the lower end of the right femur were congested (as seen on section). The fibulæ and bones of the arms and forearms not affected. Brain was normal. Lungs: extensive pleuro-pneumonia of left side, lobar in character —lower and upper lobes; right, extensive bronchitis and scattered masses of hepatization. No hemorrhage in these organs, liver, spleen, nor kidneys.

Microscopic examination of the bone showed no syphilitic lesion to be present, and that the blood zone about the shaft was extravasation, without signs of active inflammation. There was softening and disintegration, but no suppuration in the cancellous bone-tissue. There was moderate congestion at the epiphyseal junctions; in one only was there softening and separation.

Dr. Northrup also presented a card specimen illustrating

DIPHTHERIA, GENERAL TUBERCULOSIS, AND PNEUMONIA.

At the autopsy the child was seen to be poorly nourished. Extensive and abundant pseudo-membrane from the tip of the nares to the beginning of the trachea, also in the œsophagus and stomach. Mediastinal and bronchial lymph-nodes very much enlarged, many cheesy, some diffluent, some containing discrete tubercles. Lungs thickly studded with discrete miliary tubercles; lower lobes consolidated, recent hepatization. Liver, spleen, kidneys, contained tubercles. Left kidney arrested in development, about one-fourth its normal size, its companion being correspondingly enlarged; ureter dilated. No obstruction found, and no lesion to account for the arrested development. Bladder normal.

Dr. Van Santvoord said that Dr. Northrup's case recalled one of his own, presented to the Society September 27, 1882. It was that of a helpless idiot, six years of age, in whom extensive hemorrhage, with separation of both upper epiphyses, had occurred under the periosteum of the upper halves of both humeri. This hemorrhage was apparently the immediate cause of death. The case was regarded by him at the time as probably traumatic. Reports that he had subsequently seen of extensive subperiosteal hemorrhage with epiphyseal separations had been regarded by their recorders as scorbutic. He had become convinced that his own case belonged under that heading. In Dr. Northrup's case the condition of the gums seemed conclusive as to the existence of scurvy.

Dr. G. C. Freeborn presented a specimen of

COLLOID CARCINOMA OF THE GLUTEAL REGION.

The patient, a woman, aged sixty-seven, was admitted to the New York Cancer Hospital, April 28, 1888, giving the following history: About five years ago she fell backward while alighting from a street-car, striking on her hip. No bones were broken. She was under treatment for ten weeks. Two years after the fall a tumor was removed from the region of the sacrum and pronounced sarcoma. Four weeks after the operation she was seized with severe pain over the site of the tumor, and shortly after she noticed that the tumor was growing again. At the time of her admission to the hospital a tumor was found in the left gluteal region. It extended from a point five inches posterior to the anterior inferior spine of the ilium, horizontally, eleven inches to the region of the sacrum. The upper border corresponded to a line on the level of the crest of the ilium, and measured, from above downward, twelve inches. There was an elastic feeling to the mass, especially in the posterior portion near the median line. The skin was adherent over the greater part of the tumor.

On June 20th it was noticed that the tumor was growing into the pelvic cavity.

On July 23d the tumor had extended to the right gluteal region, had encroached to a considerable extent on the pelvic cavity. From this time to December 14th, when the patient died, the tumor grew rapidly, both externally and internally.

*Autopsy.*—A large, irregular-shaped mass is found occupying the gluteal region; it extends from a point one and one-half inch above the crest of the ilium, downward, for a distance of twelve inches. On the left side it is even with the outer aspect of the thigh; on the right side it extends downward on the outer aspect of the thigh, as an irregular oval mass, as far as the middle third. Numerous

oval elevations of various sizes extend over the posterior surface of the tumor.

On section through the median line the cut surface measures 23 ctm. in the vertical diameter, and 15 ctm. in the anterio-posterior. The tumor is found to be made up of dense tissue in which numerous cyst-like cavities are found filled with a gelatinous material. All the bones of the sacrum up to the first vertebra are destroyed, though their outlines can be made out in the tumor mass. The rectum, uterus, and bladder are pushed well forward against the pubes. The inguinal lymph nodes on both sides are enlarged. No secondary deposits were found in any of the organs.

Microscopical examination shows the new-growth to be colloid carcinoma.

The Society then went into executive session.

## Correspondence.

### OUR PARIS LETTER.

(From our Special Correspondent.)

THE PREVENTION OF PHTHISIS—THE ACADEMY OF MEDICINE ON THE CONTAGIOUSNESS OF TUBERCULOSIS—THE DANGER OF MEAT AND MILK EXAGGERATED—EXTRA-UTERINE PREGNANCY—A FŒTUS IN THE ABDOMEN FOR THIRTY-THREE YEARS—FOUR CHILDREN AT A BIRTH.

PARIS, August 24, 1889.

DR. VILLEMIN lately submitted to the Academy of Medicine the instructions which were drawn up by the Standing Committee of the Congress for the Study of Tuberculosis. It will be remembered that these instructions were intended for the public, to enable it to know and be capable of protecting itself against the disease, which the report says claims more victims in towns, and even in certain rural districts, than any other disease. It is calculated that about fifteen thousand, or more than one-fourth of the annual mortality of Paris alone, is due to tuberculosis. Also, that tuberculosis is a parasitic disease, virulent, contagious, transmissible, caused by a microbe, the bacillus of Koch. This microbe penetrates into the organism by the digestive canal with food, by the air-passages with inspired air, by the skin and mucous membranes, following sores, punctures, wounds, and various kinds of ulceration. The parasite of tuberculosis may be met with in the milk, muscles, and blood of animals serving for the food of man. Raw or underdone meat and blood, being capable of containing the living germ of tuberculosis, should be prohibited. Milk, for the same reason, should only be consumed after being boiled. The germ of tuberculosis is also capable of transmission from the tuberculous to the healtny subject by sputa, pus, dried mucous discharges, and all objects laden with tuberculous dust. Measures should therefore be taken against the germs of the disease which would be capable of preventing the propagation of the latter. The above is only the summary of the document which was submitted to the Academy, but where it did not meet with much favor. It was severely criticised by Drs. Dujardin-Beaumetz, Germain Sée, Lancereaux, and others. Dr. Dujardin-Beaumetz believes that phthisis is very common in the provinces. He considers that milk is much less dangerous than it is said to be. For milk to give tuberculosis, it must have been drawn from cows the udders of which were diseased. Moreover, it must not be forgotten that experiments by inoculation with milk or meat are not comparable with the results of alimentation, as in the latter case the normal gastric juice destroys or profoundly alters the pathogenic bacilli. In any case, if he would accept the recommendation of the milk being boiled before use, he cannot admit the interdiction of the use of raw or underdone meat, which are veritable medicaments in many cases, and always form the basis of a tonic alimentation. Dr. Daremberg does not believe that meat could produce tuberculosis, as bacilli do not exist in the muscular tissue.

Dr. Lancereaux is of opinion that it would be more useful to instruct the public as to the simple rules of hygiene than to talk to them about the contagiousness of tuberculosis, which is still a mooted point, except perhaps in certain definite conditions; that it is inoculable there can be no doubt, but it certainly is not contagious or infectious as are measles, small-pox, etc. He, of course, approves of the burning of the sputa of tuberculous subjects, as, if allowed to become dry, particles floating in the air may be inhaled by other persons, which would render them tuberculous. Dr. Lancereaux insists upon avoiding all depressing influences, as they act as predisposing causes of the disease. The two most powerful factors of tuberculosis are alcohol and deficiency of pure air, for it has been ascertained that the bacillus of Koch cannot thrive in pure air nor in a sound organism. Of ten alcoholic subjects, eight die tuberculous, and the more crowded are the inhabitants within a given space, the greater become the number of phthisical subjects.

Owing to the idea of the excessive contagiousness of tuberculosis being spread among the public, the people have become so alarmed that they are beginning to look upon phthisical subjects as persons to be avoided, which, of course, must have a most disastrous effect upon the patient, as well as upon his relations and friends. This exclusion is quite unjustifiable, and would remind one of a return to the practices of the middle ages, for the air expired by phthisical subjects does not contain the bacillus of Koch, as shown by repeated experiments. Moreover, statistics have proved that persons in permanent contact with phthisical subjects are not more frequently tuberculous than others. In fact, it is only the sputa that may be considered dangerous, but as regards meat and milk, they should be left for what they are. In order to completely free them from the tuberculous principle, if they contain any, the temperature to which they must be subjected is not to ebullition, but to 110° C., and even to 180° C., which will simply lead to inanition. Dr. Sée considers that milk is only dangerous when it is drawn from cows affected with tuberculous mastitis. As for raw meat, it does not determine tuberculosis. For several years Dr. Sée has treated his chlorotic patients with raw meat, and he has never seen that this treatment has produced a single case of this malady. It would be regretable to suppress this therapeutic means, which renders immense service in the therapeutics of phthisis and other maladies. According to the learned professor, tuberculosis is, after all, not so contagious as it is represented to be, and that which is termed contagion among relations is more frequently heredity. He would, therefore, not simply propose, as other speakers have done, to modify considerably the instructions submitted to the Academy, but he would suppress the whole document, that is to say, he would have nothing published but simple rules of hygiene applicable to all persons, and thus combat the idea of contagion which has been so much exaggerated. He would recommend the strict observance of cleanliness, the destruction by fire, when this is possible, of the sputa of phthisical subjects, and to prepare for them good physiological food by the ordinary means of cooking. As Dr. Villemin's instructions have to be considerably modified, the Academy of Medicine has appointed a commission which is charged to propose new conclusions, which should be independent of the instructions previously submitted. This commission is composed of Drs. Cornil, Dujardin-Beaumetz, Germain Sée, Verneuil, and Villemin.

A medical man commenting on the subject of the above instructions expresses himself in the following pathetic manner: "Return, oh my masters, to a more normal appreciation of facts, and when you draw up rules of hygiene, quit for a moment your microscopes, which magnify everything, even dangers."

Professor Tarnier lately introduced to the Academy of

Medicine a patient who is the subject of an extra-uterine pregnancy dating as far back as 1856. At that period pregnancy had reached the full term, the beats of the fœtal heart were distinctly heard, but the medical man who was consulted on the occasion having diagnosed an extra-uterine pregnancy, decided upon practising laparotomy, but before undertaking the operation Dr. Paul Dubois, the celebrated accoucheur was consulted, and although symptoms of the death of the child had manifested themselves, he did not see the necessity for immediate intervention. In 1859 the patient had occasion to consult M. Nélaton, who, after having established the previous, diagnosis, refused to operate. Since that time this woman had been lost sight of, when, a short time ago, she consulted Dr. Tarnier, who, on examination found a tumor in the sub-umbilical region, evidently constituted by the presence of a child. This tumor was divided into two parts, corresponding with the head and trunk, which were distinctly felt. The patient is now sixty-six years of age, and is in the enjoyment of comparatively good health, as she suffers from nothing but a slight inconvenience from the size of the tumor. The abdomen is so flabby that the feet of the child are easily distinguished from the other parts of the body.

At a subsequent meeting Dr. Tarnier related the case of a woman who had just been delivered of four living children: the first weighed at birth 1,900 grammes; the second, 1,580 grammes; the third, 2,100 grammes, and the fourth, 1,580 grammes. She already had had twins at her first confinement, at her second she had only one. Her maternal grandfather was a twin-brother.

## ELECTRICAL RESISTANCE OF THE HUMAN BODY.

To the Editor of The Medical Record.

Sir: A layman ventures to ask the freedom of your columns in regard to the discussion on the subject of *thanatelectrisis*.

I have followed with some interest the different opinions advanced by medical men, in this discussion, as to the proper electrical resistance of the human body. Frankly, is not this question one that requires the experimental training and knowledge of the physicist rather than the knowledge and training of the physician? Commenting on a letter from Dr. Sachs, you state that "the methods of testing human resistance are not difficult or complicated, and neither Jolly nor Gärtner can be credited with any superior and exclusive knowledge of the technique which would enable them to obtain more certain results than have experienced electricians like Edison." I agree with that part of the statement relative to Jolly and Gärtner, but with reference to Mr. Edison (for whose genius in certain directions we all have a warm admiration) he certainly is not familiar with the methods and use of instruments of precision in electrical measurements, and he candidly describes his position as that of "inventor," and in a manly way acknowledges his unfamiliarity with electrical instruments of precision. The measurements of human resistance made at Orange are entitled to just about the same weight as the evidence on the certainty of death given by the experiments on animals at Orange, wherein those of the animals that did succumb (for some the experimenters were unable to kill) were all immediately dissected.

The statement that "the methods of testing human resistance are not difficult," should not, bearing as it will the weight of your authority, pass unchallenged. The matter of determining accurately the electrical resistance of a good many objects (among them the human body) is just so difficult that notwithstanding all the means at hand in the finest physical laboratories, these resistances are not yet determined with any degree of closeness. Maxwell, Helmholtz, Mascart, Joubert, Thomson, Von Webber, and Rayleigh tell us that electrical resistance is a velocity, a length divided by a time, and as such I have only to quote the pertinent words of Professor Anthony,[1] that "the velocity with which electricity passes over any given conductor is not known, and that velocity depends upon a thousand things." It may surprise some of your readers to learn that the old statements as to the velocity of electricity have all gone by the board—and the man who now compares the rate of transmission of nerve-sensation with the obsolescent 280,000 miles per second velocity of electricity compares something with nothing.

Furthermore, physicists do not measure all electrical resistances in the same way, *i.e.*, by a similar method. One who would take a foot-rule to measure the circumference of a circle would err less than the electrician who would undertake to measure with a Wheatstone bridge the resistance of the human body. There are many electrical resistances wherein the employment of a Wheatstone bridge gives unreliable results. The internal resistance of a battery (and this seems most fairly comparable with the human body, since it is among the possibilities that the heart possesses certain electrical properties[2]) is measured by the voltameter method; the insulation resistance of a cable and all very high resistances, by the balistic galvanometer and standard-cell method, etc.

Nor does the fundamental law of Ohm stand as the only law to be considered in determining human resistance. In all this discussion not a word has appeared as to the law of resistances in divided circuits, the very law that seems most applicable to the case, for the human body, in all probability, is a divided conductor, and in a divided conductor the joint resistance is the product of the separate resistances divided by the sum of these resistances—a very different quantity from the assumed simple resistance of a certain portion of the body, which may or not embrace the paths traversed by the current.

There are also heating effects, requiring careful determinations of current-strength, resistance, and time; but, without going further, it ought to be evident that the electrical resistance of the human body is a very complex problem to determine, and one in which only very discordant results can be obtained by the hasty application of primary formulæ. Very respectfully,

Alexander McAdie, M.A.,
Fellow Clark University, Worcester, Mass.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 1 to September 7, 1889.*

By direction of the Secretary of War a board of medical officers, to consist of Colonel Edward P. Vallum, Surgeon; Major Henry McElderry, Surgeon; Major Washington Matthews, Surgeon; Captain James C. Merrill, Assistant Surgeon, is constituted to meet in New York City on the first day of October, 1889, or as soon thereafter as practicable, for the examination of Assistant Surgeons for promotion, and of candidates for admission into the Medical Corps of the Army. The board will be governed in its proceedings by such instructions as it may receive from the Surgeon-General. Par. 1, S. O. 203, A. G. O., September 2, 1889.

Janeway, John H., Major and Surgeon. With the approval of the Secretary of War, leave of absence granted, S. O. 52, July 29, 1889, Division of the Pacific, is extended two months. Par. 1, S. O. 206, A. G. O., September 5, 1889.

Cleary, F. J. A., Major and Surgeon. Leave of absence for two months, on surgeon's certificate of disability, is hereby granted. S. O. 59, Headquarters Division of the Pacific, San Francisco, Cal., August 27, 1889.

[1] Remarks at Meeting of Electric Light Association, August 14, 1889.
[2] See Electrical Properties of the Human Heart, by Dr. H. D. Waller, The Medical Record, November 3, 1888.

EWING, CHARLES B., Captain and Assistant Surgeon. Leave of absence for twenty-one days granted, to commence on or about September 21, 1889, provided that at that time the post-surgeon now on leave has returned to duty. Par. 5, S. O. 201, Headquarters Division of the Atlantic, Governor's Island, N. Y., September 4, 1889.

BANISTER, W. B., First Lieutenant and Assistant Surgeon. Leave of absence for fifteen days is granted. Par. 2, S. O. 82, Headquarters Department of Arizona, Los Angeles, Cal., August 23, 1889.

By G. O. 69, A. G. O., August 31, 1889, the garrisons of Fort Laramie, Wyo., Fort Hays, Kan., and Fort Lyon, Col., will be withdrawn, and the posts named will be abandoned as soon as it can be done with due regard to economy.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 7, 1889.*

NASH, F. S., Passed Assistant Surgeon. Detached from the Dale and ordered to duty in the Bureau of Medicine and Surgery.

RUSSELL, A. C. H., Passed Assistant Surgeon. Ordered to Naval Hospital, Yokohama, per steamer of September 28th.

HALL, C. H. H., Passed Assistant Surgeon. Detached from Naval Hospital, Yokohama, on reporting of relief, and to return home.

WHITE, S. S., Assistant Surgeon. Detached from Naval Hospital, New York, and ordered to the Minnesota.

STONE, E. P., Assistant Surgeon. Detached from the Minnesota, and to wait orders.

BRYANT, P. H., Assistant Surgeon. Detached from the Ajax, and ordered to Naval Hospital, Norfolk, Va.

WENTWORTH, A. R., Assistant Surgeon. Detached from Naval Hospital, Norfolk, Va., and to wait orders.

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## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 7, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 62 | 15 |
| Scarlet fever | 28 | 3 |
| Cerebro-spinal meningitis | 1 | 2 |
| Measles | 9 | 2 |
| Diphtheria | 55 | 16 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

CANCER AND AGE IN ANIMALS.—An instructive monograph on tumors in the lower animals, by Dr. Plicque, appeared recently in the *Revue de Chirurgie*. Among the more interesting definite facts included in his paper are the subject of melanosis and the relation of cancer to age. Melanosis, so malignant in man, is far nearer the innocent type of tumor in animals, especially in the horse. A melanotic nodule on a spot subject to irritation by harness sometimes disappears when the harness is adjusted so as to rub the new-growth no longer. The phenomenon has even been observed after the growth has begun to ulcerate. Other tumors, especially sarcoma and carcinoma, are often more intensely malignant in animals, especially the horse, than in man. Animals protected by the resources of civilization, so as to live to an old age rarely, if ever, met with in nature, are especially subject to cancer. Indeed, Dr. Plicque finds distinct evidence that age is far more predisposing to cancer in beasts than in man. Bouley, a French veterinary authority of experience, believes, on the ground of long observation, that dogs are doomed to cancer if they live to old age and are not killed by some acute pulmonary or gastro-intestinal affection. The cat, often cherished and kept alive when old and miserable, is also very subject to cancer in age. Statistics show that cancer is far more frequent in the carnivora than in vegetable eaters. This statement, as Dr. Plicque is careful to explain, is liable to mislead the pathologist; indeed, it is a capital example of a statistical doctrine eminently calculated to deceive the thoughtless. For if we only note what animals are mentioned above in this paragraph, the truth will become apparent. Old cats and dogs, carnivorous animals, are kept alive through a somewhat misguided philanthropy, or rather zoophily. But an old horse is seldom favored in this doubtful way, and cattle are killed, or ought to be killed, when they are young and tender. The herbivora have little chance of living long enough to have cancer.—*The Lancet.*

THE following interesting account of how a boy was wounded in a very critical place, and the injury was shrewdly diagnosticated and wisely treated by a medical student, comes to us in the daily press. We suppress only names. "The boy, aged fourteen, had been fooling with another lad, aged about sixteen, who was chasing him with an open knife, and upon coming up with him, gave him a cut about six inches long by one and one-half inch deep, extending from a point opposite the upper portion of the sanctum, diagonally across the left ham, severing the glutacus maximus and exposing the glutacus minimus. Mr. ——, a student at —— Medical College, stitched the wound to the entire satisfaction of his father, who witnessed his labors. Fourteen stitches were found necessary to close the same."—*Boston Medical ana Surgical Journal.*

PIANOFORTE PRACTISING.—Professor Wätzoldt, the director of the Elisabethschule (a girls' school in Germany), has addressed a most serious warning to parents and guardians on one of the evils of the present system of teaching girls. It is on the subject of what Wagner has contemptuously called *Hammermusik*. The professor begins by pointing out that the terms "musician" and "pianoforte-player" are not at all convertible. Then he refers to the illogical conduct of so many parents, who, for the sake of their children's health, ask them to be excused certain subjects of the school course, while they encourage them in the most excessive exertions at the pianoforte. Now, there is no subject which, if taught seriously, makes such a demand upon the store of nervous energy of the body as instrumental music. The brain, the eye, and the hands are all exercised at once; hence the frequent injury to health in the case of girls who have not a strong constitution. The professor has collected some statistics which show that more than half the pupils are taught the pianoforte, and that after their tenth year they spend twice as much time daily at it as at their other home lessons. Many girls complain of feeling tired, absent-minded, fidgety, of headaches and sleeplessness; and these complaints grow worse as they grow older. In all cases where the parents could be prevailed upon to diminish the hours of pianoforte practice, or stop it altogether, a marked improvement in general health was the invariable result. Herr Wätzoldt, therefore, recommends (1) that pianoforte instruction should not begin until the age of twelve; (2) that only girls of sound health, and who show some talent for music, should be made to play.—*Science.*

DOCTOR: "You see, wifey dear, I have pulled my patient through, after all! A very critical case, I can tell you." "Yes, dear hubby; but then you are such an excellent physician! Ah! if I had only known you five years earlier, I feel certain my first husband—my poor Thomas—would have been saved!"—*Ex.*

# The Medical Record

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## Original Articles.

### THE EARLY DIAGNOSIS OF EXTRA-UTERINE PREGNANCY.

BY J. M. BALDY, M.D.,

PHILADELPHIA, PA.

THE subject of early diagnosis in extra-uterine gestation is one of the utmost importance, and it is most necessary that everything which is known on the subject be put before the profession at large in as clear and concise a manner as is consistent with the facts in our possession. This is particularly so, as on our being able or not to make the diagnosis rests the treatment, in many cases, as far as electricity is concerned.

Of late years much has been written on this subject, *pro* and *con*. Among the most recent contributions is an article in the July number of the *American Journal of the Medical Sciences*, by Dr. J. C. Reeve. With many of the propositions set forth by this writer I cannot agree, and do not think the facts will uphold his statements. Many of his errors can only be explained by the following words quoted from his article: "I fully recognize the fact that a paper presented to an assemblage of practitioners should be based largely upon personal experience, and that doctrine should be illustrated, or theory enforced. by the recital of actual observations. I deplore, therefore, that I have not clinical experience to lay before you." I have been extremely fortunate in being able to study this subject from a personal clinical and pathological stand-point, and shall base my subsequent remarks on an experience of some fifteen or more cases, on which I have either operated, assisted others to operate, witnessed the operation, or examined the specimens shortly after death; in all these cases I have previously been familiar with the histories. In addition, I have seen a number of cases diagnosed, by competent observers, as extra-uterine pregnancies, when no pregnancy whatever existed. I shall try, as far as possible, to come up to the standard laid down by Dr. Reeve, and "doctrine shall be illustrated, and theory enforced, by the recital of actual observations."

I take the paper of Dr. Reeve as a basis for my own, simply because it well represents the opinions of those who advocate that the early diagnosis of extra-uterine pregnancy can, for the most part, always be made and made with ease. Such, for instance, is the opinion of Grandin, who states that "in this country the weight of opinion certainly is that tubal pregnancy may ordinarily be diagnosticated early, and of late years the number of instances where this has been done have greatly decreased." Also of Janvrin, who stated at the Washington meeting of the American Gynecological Society that the diagnosis of extra-uterine pregnancy was easier than that of normal pregnancy; and so with many others. My own experience, in addition to a careful study of the experience of others, as it has appeared in print, has convinced me that the following is the true position we must assume on this subject:

I. In a certain proportion of cases of extra-uterine pregnancy, in the early stages, the diagnosis is easy and unmistakable.

II. In a certain (quite large) proportion of cases sufficient symptoms are present to more than warrant a diagnosis of extra-uterine pregnancy, such a pregnancy not being present.

III. In a certain other proportion of cases the symptoms, until rupture has occurred, are entirely wanting, or of such a dubious character as to in nowise warrant such a diagnosis.

If these three propositions are correct, it is very apparent that the natural deductions to follow are, that the diagnosis of extra-uterine pregnancy in its early stages is of such a doubtful and problematic nature that we are justified in saying it cannot be made. By that I mean when we are most certain that such a pregnancy is present it may not be; it may be present when we least suspect it. In other words, the uncertainty is so great we can never be certain.

Reeve says: "The symptoms which have been detailed may be classified partly in reference to the order of their occurrence, but especially as to their diagnostic value, as follows:

"I. *Suggestive.—a.* The general and reflex symptoms of pregnancy, especially if the pregnancy had occurred after a considerable period of barrenness. *b.* Disordered menstruation, especially metrorrhagia, coincident with symptoms of pregnancy; gushes of blood, accompanied by severe pelvic pains. *c.* Severe pain in the pelvis; attacks of pelvic pain followed by tenderness in either iliac region, and other symptoms of pelvic inflammation.

"II. *Presumptive.—a.* The existence of a tumor; this tumor presenting the characteristics of a tense cyst, sensitive to touch, actively pulsating; steady and regular growth of the tumor to be observed. *b.* The os uteri patulous, the uterus displaced and empty.

"III. *Certain.—a.* Paroxysms of violent and overwhelming pain in the pelvis, with general symptoms of collapse. *b.* Expulsion of the decidua."

This classification of symptoms commonly associated with this disease in the early stages, although not complete, I am willing to accept, with the exception of "paroxysms of violent and overwhelming pain in the pelvis, with general symptoms of collapse." Such symptoms would put the case beyond the point of the present discussion. When the cyst has ruptured, no one will dispute that the diagnosis can, in the vast majority of instances, be made with certainty. These "violent and overwhelming paroxysms of pain, with general symptoms of collapse, always indicate rupture. This is so generally accepted as a fact that I shall not attempt to prove it by citing cases. With this exception, then, I am willing to allow Dr. Reeve's classification of symptoms to settle the question of the possibility of diagnosis before rupture or the extreme uncertainty of such diagnosis.

I wish to make this explanation of the cases I have seen. In every case there has been rupture more or less. Often this rupture consisted simply of a teaspoonful or so of black clots, and these were contained in the sac itself. They did not show themselves until the sac was either torn loose from its adhesions, or was ruptured in the manipulation. For all purposes of treatment, therefore, they were unruptured, and they are just such cases as are picked for the electrical treatment. They go incidentally to prove Mr. Tait's proposition, that the peculiar paroxysmal pains of ectopic gestation always mean more or less rupture. In every one of them pains had occurred.

To prove my first proposition, that the diagnosis is at times easy to make, I will mention a case in which I assisted Dr. Montgomery, of Philadelphia, to operate. The doctor asked me to assist him with a laparotomy for extra-

uterine pregnancy. The woman had general and reflex symptoms of pregnancy; she had disordered menstruation, after missing a period, having previously been regular; she had rather characteristic pains, and had been discharging blood from the vagina, together with shreds. The uterus was found enlarged, with soft cervix, and a tender pelvic mass to the side was plainly discernible. The operation only verified the diagnosis. The cyst was unruptured, but contained a small quantity of blood-clots in itself. The pregnancy was not more than seven or eight weeks old. With the exception of one other case, those cases I have seen, in which the diagnosis has been as plain as this, had either ruptured into the abdominal cavity, or into the broad ligament, and the diagnosis, in which I concurred, was made in these, for the most part, from the shock or collapse of the rupture. This was notably so in a case on which I witnessed Dr. Goodell operate, and in another one on which I operated myself.

My second proposition, that at times sufficient symptoms are present which not only justify a diagnosis of extra-uterine pregnancy, but compel such a diagnosis, is proven by the following cases:

Mrs. X——: General and reflex symptoms of pregnancy, such as swollen and painful breasts, containing milk; morning nausea; enlarging abdomen; frequent micturition; constipation, etc.; had missed a period or two; patient thought herself pregnant; had not been pregnant for some years; irregular bleeding for a week or two; colicky pains in abdomen; passage of blood and shreds per vagina. Examination showed a cystic tumor to one side of the uterus, painful to the touch. The patient was seen by Dr. J. Price and several other gentlemen, all concurring with me in the diagnosis of undoubted extra-uterine pregnancy. Several days afterward an operation disclosed an ovarian cyst as large as an orange.

Mrs. Z——: General and reflex signs of pregnancy almost as above; not pregnant for years; missed a period; profuse bleeding, with clots and shreds; severe pelvic pains of a colicky character. Examination disclosed a pelvic mass to the side of the uterus, evidently a distended tube. A diagnosis of extra-uterine pregnancy was made by Dr. Kyneth, several other gentlemen, and myself. Operation in a few days, by Dr. Penrose, disclosed pyosalpinx. Any one reading the brief history of these two cases must admit that the diagnosis was not only warranted, but demanded. They were both seen and diagnosed by gentlemen who have had considerable experience with this and other pelvic troubles, and who were perfectly familiar with the literature of the subject. The objection may be made, and in fact has been made, that the shreds which were discharged should have been carefully examined, and that the case should have been watched to see if the cyst grew in size. My objection to waiting is, that while we are watching and studying, the patient will suddenly go into collapse and die from a rupture before anything can be done for her. What we want is to make a diagnosis when we see the case, not to wait and run all the risks of the question being settled by death. Where the discharges can be, they should be examined. But often we do not see the shreds, only having the patient's word for their presence. Such was the case with Mrs. X——, and the woman was too sick to warrant any delay, especially as the rest of the history was so clear. The shreds, or "pieces of flesh," having been passed the day before, there being none present at the time of the examination, it was not deemed worth the risk of even one day's delay. Even had they been found, and the examination of them been negative, it would not have altered the diagnosis. The criticism advanced by Dr. Kelly, when the case of Mrs. X—— was reported, was that in a case of his own the cyst had diminished in size while under observation, and that this was a valuable symptom, and should be looked for. In his case the fœtus was dead and the liquor amnii had become absorbed. This would never occur while the fœtus lived, and therefore has nothing whatever to do with the question. Again, if the fœtus was dead, as the operation in his case proved it to be, according to our electrical friends, the operation was unjustifiable, for the reason that all was then accomplished which the most ardent electrician claims to aim at, viz., the death of the fœtus. I could go outside of my own experience and enlarge on this class of cases, if I wished; but my second proposition is sufficiently proven by what I have already given. A case I operated on only recently will prove my third proposition, viz., that at times an extra-uterine pregnancy is present and does not present sufficient symptoms to warrant a diagnosis.

Mrs. R——, came to me complaining of abdominal and pelvic pain. After giving a negative history, she was put on the table and a diagnosis of pyosalpinx was made, and an operation advised. One week later she sent for me, and I found her lying on her bed; she said she had been having abdominal pains all week; she arose from the bed in order to obtain a letter she had received from her husband. While on her feet she was seized with a colicky pain. As I watched her the idea suddenly seized me that possibly this might be extra-uterine pregnancy. I carefully examined her with this possibility in view. She had been bleeding off and on for over two weeks; the show was clear blood, with never a shred or clot in it; she had not the slightest general or reflex sign of pregnancy; her husband had been away for only three weeks or less, and she had not missed a period, nor had she had a scant one; she had been having children for the past six or eight years at regular intervals. The examination showed the uterus in good position, and the cervix perfectly normal for a multipara. There was a mass posterior, and apparently continuous with the cervix, so much so that had I not been able to clearly feel the fundus anterior, I should have thought it the fundus. The only symptoms, then, I had for diagnosis were the bleeding and the pain. These symptoms are such constant and almost invariable companions of all serious pelvic troubles, that without something more to sustain the diagnosis it had manifestly to be given up. Dr. Hamill made a most careful examination for me, and could find nothing more than I had on which to base a diagnosis; in fact, he did not think it a case of ectopic gestation at all. Before beginning the operation the next day, I remarked to the visitors that I was operating for what I had thought to be a pyosalpinx; that if it turned out to be a tubal pregnancy they must not say I had not at least suspected that possibility; that possibly I might find nothing but an intra-uterine pregnancy (the continuation of the softer mass posterior with the cervix making this a possibility). My preference for the diagnosis of pyosalpinx was because of the negative symptoms for extra-uterine pregnancy, and because the woman had been complaining of pelvic pains for the past three or four years; had pain at her menses; painful coition and defecation. She had been having more or less whites, and they had suddenly become profuse, with itching about the vulva, and painful micturition. She was in that state of life when one would expect her husband to infect her with gonorrhœa. Taking it all for all, the indications were clearly for pelvic inflammatory trouble, and against extra-uterine pregnancy. It turned out to be a pregnancy of the fimbriated end of the tube, with a small quantity (a drachm or two) of black clots in the cyst itself.

Now here is a case in which the diagnosis of ectopic gestation could not be reached, although a most careful examination was made with that possibility in view. These cases I present show some of the difficulties in the way of a correct diagnosis, even in the hands of those who are in the habit of seeing and handling such cases frequently. What is a difficulty in the hands of the specialist becomes oftentimes an impossibility in the hands of the general practitioner, and where one constantly used to dealing with pelvic and abdominal diseases may at times suspect or stumble into a correct diagnosis, those who have not the time to bear all these matters continually in mind, to the exclusion of almost everything else,

must very frequently fail. At any rate, from my own experience I show clearly how extremely uncertain the whole matter is, and what folly it is to say we can with any degree of certainty make the correct diagnosis Because in sooth we can in certain cases make the diagnosis and find it verified (for an unverified diagnosis is utterly worthless), what right have we, in the face of such an experience, to say it can always be made? If we admit that mistakes are and can be made, such as I have detailed, then the whole subject becomes at once one of great uncertainty, and my statement that the diagnosis cannot be relied upon becomes justified. That such is the true state of our present knowledge is proclaimed by the majority of those with any real experience on the subject, such, for instance, as Dr. Gaillard Thomas, who says, "Need I say how difficult such a diagnosis is at a period sufficiently early to prevent rupture of a distended Fallopian tube, which usually gives way before the fourth month of gestation has far advanced? Even after fœtal movements, the fœtal heart and the precious results of abdominal palpation put themselves at our disposal, accurate diagnosis is often far from easy. . . . There are few pelvic conditions which develop in the female, from phantom-tumor to fecal impaction, which I have not seen confounded with ectopic gestation." The advocates of the early diagnosis being drawn from the ranks of those who acknowledge they have only such knowledge as they obtain from the literature of the subject, or from those who make the diagnosis, treat the disease with electricity, but never verify it by either abdominal section or post-mortem examination. In other words, they only verify their diagnosis by the so-called "therapeutic test," which Dr. Reeve complains we, who differ from him in opinion, will not accept. In view of the great uncertainty in our way of diagnosis, as shown by my own experience, and verified by the knife, can any one blame us for not accepting such a test?

## INTUBATION IN CASES OF FOREIGN BODIES IN THE AIR-PASSAGES; WITH REMARKS CONCERNING FEEDING AFTER INTUBATION.

By S. J. MELTZER, M.D.,
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W. G——, a boy, aged three years, while crying with his mouth filled with food, was suddenly seized with a choking spell. The mother, who was attracted by this circumstance, supposing that food had become lodged in the air-passage, turned the boy upon his head, slapped his back, and finally administered syr. ipecac in sufficient doses to provoke vomiting. The violent symptoms abated, and the boy is said to have slept peacefully the following night. In the morning, however, his voice appeared hoarse, and his breathing in the course of the day became more and more labored. I saw the child about 3 P.M., some twenty hours after the choking spell. The symptoms which presented themselves were those of a case of croup in a tolerably advanced state; and, indeed, without the preceding history I would certainly have diagnosed it as a case of croup. Having been unsuccessful in an attempt to relieve the child by the endolaryngeal method, I advised to consult a laryngologist. Upon my return, after the lapse of three hours, I met my colleague, who had also fruitlessly endeavored to relieve by the laryngoscopical method. He considered tracheotomy as the only means out of the difficulty. The child, however, had at once to be relieved, as its condition in the meanwhile became very critical. The child lay comatose, its face intensely cyanotic, pulse very feeble, frequent, and intermittent. The supraclavicular and sternal contractions increased to their utmost, and no air found access into the lungs. Many difficulties presented themselves to the immediate performance of tracheotomy; I therefore conceived the idea of trying intubation. With the assent of my colleagues present, I introduced an O'Dwyer's tube into the larynx, and relief thereupon followed. The child breathed freely, the pulse improved, the cyanosis disappeared—in short, the condition was nearly a normal one. I did not remove the tube, but so wrapped the child in a blanket that it could not free its hands and seize the thread. Small pieces of cracked ice were alone given to the child, and a constant watch upon the latter was ordered. The child passed a good night, the peaceful slumber being only now and then interrupted by coughing. Toward morning, however, the watching grandmother loosened the blanket, and fell asleep, whereupon the little patient, during a coughing spell, seized the thread and pulled the tube out. When I came I found the child breathing perfectly free, without any sign of stenosis or dyspnœa. Upon examining the tube I discovered that it was half-filled with viscid mucus, and that it contained, besides numerous small particles, a comparatively large, pointed piece of a nutshell. Although the larynx did not cause any trouble, a rise of temperature appeared the same day, which, as was soon proven, proceeded from a fibrinous pneumonia. The development and course of this illness was not of sufficient importance to be reported in detail. There first appeared symptoms of a pneumonic infiltration of the entire lower lobe on the posterior surface of the left lung. Five days later there also appeared a pneumonia of the right side, posteriorly and inferiorly, but not so extensive or severe as that of the left side. The temperature was moderate, but slightly above 102° F.; the general condition satisfactory, only a painful cough was present which reminded one of pleurisy. In fact, the dulness was so striking on the left side, even before the bronchial respiration appeared, that I, in spite of the origin, carefully looked out for the differential diagnostic symptoms of pleurisy and pneumonia before deciding upon the latter. Over the dull areas fine crepitant râles and vesicular breathing were present during the period before the appearance of the bronchial respiration; the areas of dulness remained unchanged in all positions. The dulness was not increased from above downward. The vocal fremitus was increased, that is, very pronounced, during the first few days, before the pneumonia invaded the right side. It is very probable that the infiltrated areas lay superficially. The fever disappeared two weeks after the beginning, and terminated by lysis. The dulness, which outlasted for a long time the bronchial respiration, disappeared gradually about three weeks later. Nothing remained; the child is perfectly well.

That we are here dealing with a foreign body in the larynx need not be further explained. The stenotic symptoms, however, did certainly not originate from a direct obstruction of the glottis by the foreign body—the latter was too small to cause this. It could, though, be conceived that there were other small particles present, which were coughed up and swallowed, and that the amount of these might indeed have occluded the glottis. In a direct occlusion, however, the first attack would not have passed off, and the second deciding attack would not have been developed relatively so slowly. It is much more probable that the first choking spell was produced by a spasm of the glottis, which was reflexly induced by the foreign body, whereas the subsequent gradually developing stenosis was occasioned either by a submucous swelling or by œdema of the glottis, which the irritation of the foreign body resting in the larynx might have provoked. We certainly find in literature mention of cases where foreign bodies remain for a long time in the larynx without causing any reaction. Still, these particles lay chiefly in a ventricle of Morgagni; whereas our piece of nutshell, by the nature of its pointed condition, might have been lodged near the edge of a vocal cord, where, on account of its frequent movements, the irritation must have been more frequent and intense.

The removal of the foreign body from the larynx can be explained in two ways; either that the body already in the larynx lay embedded in viscid mucus, thence by the introduction of the tube the body, with viscid mucus,

became adherent to the lower end of the tube, and was forced into the tube by coughing; or that in pushing the tube into the larynx the body fell down into the trachea, and upon coughing was forced up into the tube.

The origin of the pneumonia in our case cannot be attributed to the intubation. The tube remained relatively but a short time, and the child received nothing to drink while the tube was in the larynx. It is much more probable that the pneumonia originated from aspiration of very small particles during the choking; we certainly found a large number of these embedded in the mucus besides the larger piece.

As far as I can review the literature, the present attempt appears to be the first where intubation was performed for the treatment of foreign bodies in the air-passages. It is therefore appropriate to discuss how far intubation may be brought into play in the cases mentioned. Although this case terminated satisfactorily, it is yet apparent that this method will not only be of no avail in some cases, but will, on the other hand, work direct mischief in many cases. If, for example, the foreign bodies in the larynx be larger than the lumen of the tube appropriate for that particular case, then certainly intubation will be useless; it will, on the contrary, apparently do harm, as the body will be pushed from the larynx into the trachea, and the chance for the now expedient tracheotomy will be greatly impaired, as there is more prospect of success in tracheotomy to remove the foreign body when in the larynx than when it is in the trachea. I shall therefore attempt to state the conditions under which intubation in cases of foreign bodies in the air-passages appears permissible and advisable. Firstly, where we can with certainty assume that the foreign body lies in the trachea or in a bronchus. In this case there exists no contra-indication. In all these cases intubation should be performed and developments awaited. If the foreign body be smaller than the lumen of the tube, it will be dislodged by the severe coughing attacks always present, in addition to which the fluids which now and then flow down through the open tube may also be of service in facilitating its removal. If the foreign body be larger than the lumen, the success of tracheotomy will not in any respect be impaired if compelled to resort to it after the unsuccessful issue of intubation. In cases where the body dwells in the larynx the case is different. If the foreign body be sufficiently large to occlude the glottis, and the first choking attack do not pass off, then certainly tracheotomy should at once be preferred, if there only exists a possibility of performing it. If, for some cause, such a possibility be not present, then an attempt should be made to push the foreign body into the trachea by means of intubation. The trachea is much wider than the larynx, and what fills the former will allow the passage of air in the latter; besides, the tube lying in the larynx will prevent the foreign body from again becoming wedged in it, so that by the intubation a respite is gained for the possibility of a subsequent tracheotomy. In cases where the body does not occlude the larynx it is difficult to arrive at a conclusion. If the stenosis has assumed a dangerous aspect, and if it be for some reason not practical to perform tracheotomy at once, as in our case, then we ought unhesitatingly to intubate, and we may often avoid a subsequent tracheotomy, as the case above described shows. But if the case is not as yet very urgent, and tracheotomy can be performed with as great facility as intubation, then, in my opinion, it would be more rational to tracheotomize. If we certainly knew that the body could pass through the tube, then, in my judgment, intubation would certainly be indicated, with certain presumptions that the body would again be coughed out. But we have no hint of what size the foreign body may be, and it may possibly be larger than the lumen of the tube, though it is not large enough to obturate the rima glottidis. Should it be the case—should the body be larger than the lumen—then we still would not avoid tracheotomy; but then the latter presents a more favorable prognosis for the removal of the body if it be in the larynx than if it be in the trachea or fallen down into a bronchus.

To the cases mentioned I would like to add the further remark, that in a certain variety of foreign bodies in the air-passages intubation is unconditionally indicated, namely, where fluid deluges the lungs—the water, for instance, in drowned people, pus from a retropharyngeal abscess, blood in operations of the mouth, and especially the blood in pulmonary hemorrhages. Death in the latter cases mostly does not ensue from loss of blood, but from asphyxia, as the blood, which cannot escape rapidly enough, deluges the whole respiratory surface. Cases are cited in literature where tracheotomy under these circumstances was the means of saving life. I do not hesitate to state that in such cases intubation, to say the least, will prove of as great avail as tracheotomy. If we take notice what a large amount of fluid we may pour directly into the trachea after an intubation, without perceiving any threatening signs of asphyxia, we must conclude that the glottis alone is at fault if any fluid in the trachea can provoke asphyxia, inasmuch as the glottis is impelled to closure by the irritation of the fluid foreign body, and thus is the escape of this fluid prevented. At any rate we will not lose anything by intubating in such cases.

As an addition to the preceding communication, I desire to make a few remarks on a method of feeding after intubation. As is known, the question of how the child is to be fed, is, in the eyes of many, the weak point in the method of intubation, on account of the danger of "Schluckpneumonie." I have explained in another place[1] that the pneumonia can only be developed through active expiration while the glottis is closed. A mere aspiration cannot draw anything, even it be ever so small, into the alveolæ. If this theory be correct—and I hope soon to be able to experimentally demonstrate its correctness—we need not fear the "Schluckpneumonie" as long as the tube remains in the larynx and prevents the closure of the glottis; we must but cease with the feeding for some time before the removal of the tube, and cleanse the trachea with a mild antiseptic. But even without the fear of "Schluckpneumonie" the feeding after intubation is very difficult, because most of the food makes its way into the trachea, and but a small quantity into the œsophagus, and, furthermore, the children stubbornly resist taking food at all. To think of feeding by means of the œsophageal tube is in such cases the more natural, as this method of feeding has already come into vogue in ordinary cases of diphtheria.[2] But the introduction of the œsophageal tube through the mouth meets many difficulties and induces vomiting, which we certainly should try to avoid. Latterly, therefore, I have tried to overcome the difficulties by introducing a soft catheter (silk or rubber) into the stomach through the nose, and left there permanently. Though my experience in its use is limited to but two successful cases, I will briefly explain this method (which I could not find described anywhere in literature) so that others may try it. It gives promise of good results.

The outer end of the catheter was connected with rubber tubing, which was knotted so as to prevent the outflowing of the fluid from the stomach, and to retain it *in situ* it was fastened to the ear by a thread. The children, both otherwise stubborn, made no attempt to seize the tube. If nourishment was to be administered, a small funnel was attached to the tube; if the nourishment at times did not flow through, it was easily remedied by blowing into it a little. As food there was used milk, beef-tea, diluted wine, a little at a time, but frequently even during sleep; the child was never awakened by feeding. Ir to the mouth there was given only now and then a 1 to 10,000 solution of bichloride of mercury, in order to moisten the mouth, to induce cough, and to cleanse the trachea aseptically. Not a drop of this fluid entered

[1] S. J. Meltzer: Ueber die mechan. Verhältnisse bei der Entstehung der Pneumonie, Medicinische Monatshefte, 1889. Heft II.
[2] Renvers: Therap. Monatshefte, 1889. Heft III.

the œsophagus; no attempt at swallowing could be observed. If anything were injected into the empty nostril the fluid would emerge from the other one, in which the catheter was placed, so that the catheter is no obstacle in the treatment of nasal diphtheria. In one of the children the posterior nares were so completely occluded with diphtheritic masses that I was compelled to bore through the latter with a prostatic catheter before I could pass a soft catheter through the pharynx. Both children, of different families, had pronounced diphtheritic croup, all the members of both families had had diphtheria, and, in fact, several times, and among them there were types of a severe nature. One of the two children had pronounced croup twice within a short period and recovered. The other child died, but neither from croup, "Schluckpneumonie," nor anything connected with the intubation or method of feeding. It was a four-year-old rachitic boy, with a very severe septic nasal diphtheria, and an acute nephritis; he died of cardiac paralysis.

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## VAGINAL TAMPONAGE.

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Practising gynecologists have been and still are casting about for a means to support the uterus and its adnexa, by a ready, inexpensive, and practical process, the problem always having been how to do this in the absence of a fulcrum or *point d'appui*. To their constant exertions we owe the present elaborate process of tamponage. This process discards a fulcrum by taking advantage of elastic or resilient pressure, thus obtaining innumerable points of support, without doing violence to anyone.

After having employed absorbent cotton, oakum, jute, felt, etc., the writer thus far has obtained the best results by the use of pure lamb's-wool in loose felt-like sheets half an inch thick, manufactured by Messrs. Seabury & Johnson, of New York. This was formed into spindles of various lengths and thickness; disks, rectangular, square, wedge-shaped, and round and oval; cylinders, truncated cones, etc., wrapped with moist carbolized gauze, then loosely quilted and medicated as indications required. After having treated patients thus from one to four months, medication of these tampons could be dispensed with in many cases, the engorgement, pelvic pain, etc., being removed by this process, aided powerfully by the elastic abdominal supporter, transferring of the weight of all the undergarments from the hips to the shoulders, and restoring somewhat the natural security and tactile function of the foot by strenuously insisting on the wearing of laced shoes with low, broad heels and roomy across the toes. Considerable degrees of prolapse of the anterior and posterior vaginal walls were thus removed, and this in many cases of lacerations of the perinæum. During winter this process of tamponage need not be repeated more often than once a week, *i.e.*, in cases which by continued treatment have reached a purely mechanical stage, not complicated by any pronounced pathologic conditions; but during warm weather this will not do, for the process has to be repeated twice. Yet few have the patience, fewer the time, and still fewer the means to keep this up, and, since "possession is the death of love," therefore, after having ransacked the history of a process from gray antiquity to the present time, and mastered its principles and their practical application and execution, its endless routine repetition becomes a labor or task, for such patients then have practically passed out of the application of tamponage as understood at present, and a substitute becomes imperative—a substitute, not by a hard or semi-solid pessary, for his experience compels the writer to distinctly differ from the views of most practitioners, who look upon tamponage as an appropriate precursory procedure to the wearing of a pessary, but by a simplified continuance of the same process, at once efficient, inexpensive, clean, and of easy self-application.

It thus became a serious consideration to devise a tampon possessing the advantages of a pessary with few, if any, of its defects.

Comparative physiology teaches that the functions of what we please to call the perineal body are unknown. Civilization, which is not founded in nature, assigned to it the function of support, but this is not proven; for the apex of a cone or wedge cannot support anything, particularly when its base rests upon nothing, and comparative anatomy shows that the vaginal fornix is produced only by an intussusceptio cervicis uteri into the lumen of the vagina, induced by the assumption of the erect posture, which intussusception disappears nearly if not quite in the horizontal or genupectoral.

A cavity is thus produced which, if filled with plastic material, would result in the formation of a body corresponding in its general contour with that of a California pear, the anterior surface of which would be rather flat as compared with its more convex posterior and the small end of which would join the body under a slight obtuse angle.

In order, then, to permanently support this dome-like roof of that cavity, with its eccentric pendant of the cervix uteri and all other superimposed organs, the elastic and self-adjusting resiliency of a collapsable rubber pouch suggested itself.

Black sheet-rubber of the thickness of that employed in the manufacture of inflated ring-pessaries was cut into sections, according to patterns previously determined, having curvilinear edges, to bring out the shape of a pear, and united by welding and cementing over an expansible wire frame similar to that employed in Professor Otis' urethrometer, which was then withdrawn at the small end, when that too was united, closed, and perforated by a hole punched into it of one millimetre in diameter. The cemented edges of the sections form ribs which, when the air is pressed out of the balloon, exert a powerful tendency to expand. They, as well as the small end of the balloon, effectually prevent shifting when *in situ*.

Well lubricated with carbolized petrolatum, it is rolled up, and, according to previous instructions, the patient introduces it while in the dorsal decubitus, and when the small end is even with the orificio vaginæ the patient changes to the genupectoral without stepping on the floor.

The instrument is immediately drawn into the cavity, to which it seeks to adapt itself. The patient is then told to cough several times while maintaining this position during five to ten minutes.

There is next to no possibility of its changing position when once in place, by walking up or down stairs, stooping, lifting, reaching up, etc. A perfect fit is indicated when the patient, after having executed all these movements, cannot tell that she is aware of the presence of a foreign substance.

Active motion only tends to make it fit closer, by its constant inclination to adjust itself to the continuously changing lumen of the vaginal vault and ever-varying pressure by the organs superimposed.

The two thus far made were of necessity crude, expensive, lacking workmanlike finish, and devised tentatively for patients who were abundantly able and willing to pay. They more than met the requirements of these cases, having been worn constantly during the last five and three months.

The first was a case of retroflexion, complicated with displacement of the ovaries into the cul-de-sac of Douglas, laceration of the os and perinæum, and prolapse of the anterior and posterior vaginal walls, leucorrhœa, etc. Twice a week the vagina was douched with two gallons of hot water containing equal parts of sulphate of zinc and alum in solution (one teaspoonful to a quart), the lacerations of the os touched with liquid carbolic acid ninety-five per cent., the fornix dusted with equal parts of iodoform and tannin, a glycerinated, spindle-shaped,

quilted lamb's-wool tampon placed into it so as to form a horseshoe (patient in genupectoral and by means of a Sims'), followed by a wedge-shaped quilted disk, charged with powdered tannic acid, and a cylinder constricted in the middle, charged with pulvis zinci oxidi comp.

As long as congestion lasted the glycerites were used and changed every second week, such as the glycerite of ammonio-ferric alum, acetate of aluminium, sulphate of aluminium, of zinc, borax, acetate of lead, tannic acid, and boric acid in the form of boroglyceride of fifty per cent., prepared by melting eight troy ounces of boroglyceride (as prepared by the Merrell Chemical Co., of Cincinnati), and adding glycerine enough to make sixteen fluid ounces. The caustics to the os were also changed to iodized phenol, to conduct the granulation so as to prevent contraction and dipping in, the finishing touches being given with solid nitrate of silver—the disks and cylinders (strings were not attached to them) being also charged with the powders of these various agents according to indications; acute inflammation of the external parts, abrasions, etc., were relieved by the compound zinc powder prepared of

℞. Zinci oxidi puri..... ʒ vi.
Magnes. carb. pulv.,
Amyli pulv.....āā ʒ i.
Morph. sulph ..... ..... ..... ʒ i.
Misce bene.

Pure oxide of zinc possesses all the therapeutic properties here as well as subnitrate of bismuth, which is five times more expensive.

The function of the mucosa of the generative tract being mainly that of secretion, ointments were not employed; in fact, the writer has discarded them in the treatment of all cases, having relegated their use to the lubrication of the digits and instruments, the polish of which they prevent from tarnishing. When all these pathologic conditions were removed, exclusive of the laceratio perinæi, a soft-rubber stem, according to Professor A. R. Jackson, was introduced, followed by the collapsable rubber tampon, the diameter of the body of which was one centimetre larger than the cavity. It is removed once a week by the patient in the dorsal position, followed by a hot alum-zinc douche through a fountain-syringe. The patient has worn this now five months and enjoys perfect health.

The other case was that of a nullipara, twenty-nine years of age, married eight years, with hyperplasia of the uterus, chronic endometritis and cervicitis, ovaralgia, dysmenorrhœa, mennorrhagia, decided anteflexion, and constant pelvic pain. After dilatation of the neck, curetting, intra-uterine douches, iodized phenol, the cervix was kept patent by a soft-rubber stem (exchanged of late at the proper time for Dr. Outerbridge's cervix distentor to favor conception), the case went through the same routine treatment, modified as indications required, and now, after three months' constant treatment, is practically a changed person with a fair chance of increasing the population of the United States.

Its facility of self-application insures a longer period of constant support, which is not otherwise attainable, yet most indispensable in obtaining anything like permanence of relief. The significance of this no one can appreciate more than the practising gynecologist, who more often than any other sees his most elaborate efforts nullified and frustrated by the passive resistance of his patient.

It would be much improved by adequate facilities for construction, and the cost so reduced that those poor women who need them most could be supplied without charge at dispensaries, etc. The thickness of the material employed, the form, length and breadth of the instrument, its surface, length, width, thickness, number, shape, and disposition of its ribs could then be varied according to indications to be met. The ribs form a most integral part of it, which the intervening substance only serves to maintain in their relative position. They may be flat, fluted, little or not at all elevated above the surface, or they may stand out in relief, half-round, scrolled, ridged, tapering above and below, and disposed lengthwise, in a spiral, or horizontal. They act like so many continuous sutures in the tissue of the vaginal tract.

The inflated ring, the balloon and dumb-bell pessary inflatable by a tube, are cumbersome to apply, want adaptation, and are no improvement on the ancient hog's bladder.

Mechanical niceties, such as the lever, ball and socket, cradle, etc., as applied to pessaries, exist only in our imagination, but not when *in situ*; for, should they fit, they do so only by crude pressure, the difference of density of their substance as compared with that of the tissues being so great that they become foreign bodies, and as such not to be tolerated. They all presuppose but lack a fulcrum, and to however few their points of impingement may be reduced those points are not stationary. Indeed, such contrivances find no nidus in the canal of the pelvis, the diameters of anyone of the planes of which are not and cannot be constant. Clinical experience and observation teach that tamponage, even in its crudest manner, is far superior to the most elaborately constructed pessary. The prognostic importance attached to lacerations of the os and perinæum are shorn by it of much of their pathologic significance, and their surgical treatment becomes rather a matter of personal choice than necessity, except in cases complicated with vesico- or recto-vaginal fissures, degeneration, etc.

We thus obtain, while in the erect posture, to a considerable extent the benefits to the organs produced by the genupectoral, but be it repeated only then, when the corset on the thorax is pulled down so that its lower edge reaches midway between the crest of the ilium and the great trochanter, the buttons on the boots replaced by laces and the heels cut down, so that the centre of gravity of the body is restored and the security of footing increased by relieving the toes, which thus far have been lying cheek by jowl, like kittens in a basket; then, too, our boulevards will not be graced so often by the painful sight of ponderous dames waddling instead of walking for an outing, blowing like whales under the burden of an abdominal engorgement equivalent to an eight months' gestation.

445 Thirty-seventh Street.

## HEREDITY.

By J. T. SEARCY, M.D.,
TUSCALOOSA, ALA.

Certain modes of motion, or habits of action, are observable belonging to every grade of animal. The modes and habits always follow, in the life of the animal, a fixed line of sequence, and are peculiar to the species.

For convenience these habits of action can be divided into morphological and functional.

An animal begins, generally, from a minute genetic cell, and gradually develops into the size and form of the adult of the species. The primitive starting-point is the protoplasmic mass, which is called the nucleus of the cell. This material appears "specialized" to perform a certain routine of actions; or, it has the established habit of performing certain specific modes of motion. This is the connecting material between parent and offspring; or, it is the portion in the line of descent that breaks off from the parent, and has the habit of continuing previous ancestral habits. Its specialization consists in this.

The morphological changes are cellular, and consist in a proliferation and multiplication of new cells from the original genetic cell. In embryonic and fœtal life, these cells are seen to assume shape and form by aggregation. They collect in masses, some in one direction, some in another, constituting eventually the different structures and organs of the body. The growth of the animal follows in its specialized changes a method of development peculiar to the species. The morphological process ends soon in the development of a low grade of animal, but in one of

a high grade the development runs through a long chapter of changes, passing from a high to a higher complexity of structure. Morphological changes indicate a habit of action. There are also established modes of motion, or habits, in the functions of the several parts or organs. The organs, the communities of associated cells, in their aggregated capacity, exhibit also established methods; they indicate characteristic habits, always in accordance with ancestral modes. The morphology and the physiology of the animal, comparatively speaking, is habitual.

A number of years before the hypothesis of evolution was formulated to give an explanation to these methods of life, several observers, Agassiz among the first, drew attention to the fact that, in the embryonic and fœtal development of an animal of a high grade, its morphological and functional actions in their successive stages were analogous to the successive grades of lower animals. The new animal, in other words, beginning at the lowest cell-form, in more or less accurate detail, repeated the ascending scale of animal life. Such phenomena are matters of observation. No explanation was satisfactorily offered for them until the hypothesis of evolution was applied to them. This method of reasoning now permeates all science. No naturalist of to-day can avoid it. The study of physiology has to assume it.

Nothing is more simple, in explanation of the morphological and physiological habits of animals, than they are repetitions of previous methods of action, of ancestral modes. In other words, these habits of action have become fixed methods by reason of a long course of repetitions, extending, with occasional modifications, through ages of ancestral life. The occasional modifications of new adjustments are very few compared with the countless number of repetitions that have fixed the habits. This is the modern view of heredity. It may be defined to be the specialized property of the individual animal, beginning in the changes witnessed in the genetic cell and extending through those of its whole life, in which it repeats the modes of action of its ancestry. It does this morphologically and physiologically. Heredity, for short, is the habit of repetition.

Until recently the study of physiology has been very incomplete. It only devoted its observations to the individual. Science, in this particular, has made a very important and valuable "change of base." It now considers the actions of the living animal from a new stand-point. The individual is not now considered a separate agent distinct from others in the line, but is a part of the line of descent. In his lineal aspect he is not separate at all. There is no break in the continuance of his "matter in motion." The genetic cell, it is true, separates from the parent; but it is a segment, a portion of the lineal structure branching off. The material continuity is complete. Wherever the line breaks there is a complete cessation, which never resumes. The mystery now disappears. The physiological line of descent can now itself be considered as an individual and considered as a whole. A great deal of remodelling of philosophy has necessarily been done since this view has been taken of life.

At this point, an inspection of the methods of reproduction is interesting and tends to confirm these views.

The lowest and simplest method of reproduction is by segmentation, in which there is a simple partition of the parent into two or more parts.

A more complete method is by gemmation, in which the offspring begins as a bud from the body of the parent.

The method which is the habit of most advanced animals is by genetic cells, exceedingly minute compared with the size of the parent.

In essential particulars, these three methods are similar processes, and the last two may be regarded as modifications of the first.

In the reproduction of animals there are two other methods observable: one in which the parent animals are sexed; the other, in which they are not sexed.

In the non-sexed animals the offspring develops from a single genetic cell. In the sexed animals the offspring begins in the combination of two genetic cells.

A definition of the terms male and female among sexed animals is well stated, when we designate the male as the individual who has acquired the habit of not gestating his own genetic cells, but turns them over to the female to gestate in combination with her cells. The one does not gestate; the other does.

Inasmuch as there are lower forms that singly develop their genetic cells, we may suppose this was the original method.

Gestation is in some cases a very short process, and again, in many, the combination takes place outside the body of the female. But still, for convenience, this definition is good, as it applies to all the higher animals, the mammalia for instance; the female gestates, and the male does not. A better designation of the male is: he turns over his genetic cell for combination with that of the female. He most generally seeks the female for that purpose.

Offspring of sexed animals arise from a combination of genetic cells. The amalgamated cell is seen afterward to exhibit a combination of the habits of action of its two parental lines. There is a combination of substances and a combination of activities. Morphological and physiological habits appear combined. Genetic cells from widely separated species cannot combine successfully, because their habits of action are not alike. Only when varieties are nearly alike, the horse and the ass for instance, or the bison and the cow, can a successful combination be accomplished.

The most advanced species are so decidedly sexed, their genetic cells never develop singly. The habit of combination is too firmly established. There are, however, some lower species that are sexed, the honey-bee for instance, whose females do bear cells capable of single development.

In the human species there is no exception to these general rules. The same kinds of "habits of action" are observable. The offspring represents a combination of ancestral traits. The protoplasmic nuclei of the two genetic cells are seen to commingle, and the amalgamated cell follows a regular graded line of gradual development until the organs and form of the adult are reached, when we witness in all the modes of action a combination of the ancestral lines; we witness tendencies to repetition, unless diverted by unusual outside influences. It may not be an exact repetition of those of the immediate parent, but in atavism we witness the ancestral traits. The habit is repetition, unless diverted. This tendency shows itself in size, shape, color, complexion, features, in the modes of muscular motion, speech, voice, gait, and even in the most recently evolved traits of intelligence and character. The longest established habits are the most certain, those that in ancestral modes have been most frequently repeated, such as race or national characteristics.

Heredity, all through the animal kingdom, means the habit of repetition.

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The Diuretic Action of Salicylic Acid.—Dr. Huber claims to have had clinical demonstration of the diuretic properties of salicylic acid. In twenty-five cases of rheumatism, he noted the quantitative augmentation of the urinary secretion after the administration of the acid. He found the quantity of urine to increase in the twenty-four hours from five hundred to seven hundred grammes. Similar results were noticed in cases of pleurisy. The diuretic dose of salicylic acid was about ten grains every three hours, till the quantity of forty-five grains per day was administered. The diuresis augments from the first day, and continues on the following days. Huber would not advise the employment of this remedy in typhoid fever, and still less in the course of nephritis; in fact, he would restrict its use to cases of simple pleuritic effusion.—*Gazette Hebdomadaire de Médecine.*

## MATERNAL IMPRESSIONS.

By J. WETHERBY, M.D.,

ARLINGTON, KAN.

"MINDS of great men do not run in the same channels." This seems to be true regarding maternal impressions, or "birth-marks," as they are commonly called among the laity. Although there is a great diversity of opinion in regard to this subject among members of the medical profession, it is generally believed by the people at large. Almost any grandmother with whom you may converse on this subject will relate instances that have come under her personal observation, that to her mind at least are undoubtedly birth-marks; and to tell her that you do not believe in such things as these would brand you forever as an ignoramus in that old lady's opinion.

The fact that the belief is so wide-spread, extending to all nations and peoples, civilized or barbarous, ignorant or educated, would of itself lead us to think that there must be something in it, some foundation for such belief. There are very few ideas which are almost universally accepted by the world, as is the belief in mother's marks, that do not have some pretty sure foundation upon which the superstructure is built. Of course there are many beliefs or theories that are merely superstitions, and many physicians relegate the theory of mother's marks to this class; but very often these same superstitions, which are looked upon as relics of the dark ages, are only perverted facts. Again, because our grandmothers universally believed in some theory it does not follow that their theory is correct, for it is often widely contrary to the truth; but the opinion of these old granddames is not always to be lightly set aside, for they are frequently close observers, and often arrive at very sensible conclusions.

The subject of maternal impressions has interested me very greatly of late, and I have watched the theories and arguments pro and con that have been advanced through the medium of our medical journals with both pleasure and profit.

Some doctors profess a disbelief in the theory because it cannot be scientifically proven; but were we to accept only that which is definitely and clearly understood, what a set of doubting Thomases we would be! The fact is that most things in nature are mysterious, if we would but admit it. We have our theories and many times are able to prove them, if not correctly, at least satisfactorily; but often after one has been proven and accepted, and regarded as a fixed fact, another rises up and demolishes our fair structure, while we gaze with doubt and wonder upon the ruins which the hand of progress and the fertility of man's brain have wrought. Even behind theories that have come to be regarded as fixed facts there often comes to our mind a *how* and *why* that the most elaborate theory does not reveal to us. Therefore we are forced to admit that there is in all nature, even in its most simple parts, a hidden something which no one except the all-wise Creator can ever fully understand.

In no field of science do the remarks just made apply with greater force than to the broad and ever-widening field of physiology. Ideas are constantly changing. Theories are advanced, accepted, and exploded. The theories of our grandfathers, who were educated men in their day, look, many of them, almost puerile to us; and our grandchildren will look back pityingly at the wisdom of the present generation.

Shall we, then, reject a theory or belief simply because we do not understand its why and wherefore? Shall we, like Thomas, disbelieve because we cannot see and behold? Again, will our disbelief alter facts? We know that many things are so, but why they are so we cannot tell; yet if the fact appeals directly to our senses, we are forced to believe it regardless of theory.

Then why should we, as physicians, believe there are no such things as birth-marks just because we cannot, or at least do not, understand their development or causation, or the relation of the cause to the effect? Physicians have said to me, "It certainly does look as if it might be a birth-mark; but since neither the child's vascular or nervous system is connected with that of the mother, I don't see how the impression could have been conveyed to the fœtus, and I think it is only a coincidence." Now, the question is not how does this come about, but does it come about at all?

In the affirmative we have such men as Rokitansky, Mitchell, Roth, E. Séguin, Foerster, Peacock, and many others; while many equally good authorities are found who are opposed to the theory. Byford, I think it is, says that a woman's occupation during her pregnancy will have an influence upon the mind of her offspring. On the other hand, a recent writer stated in an article upon this subject that the child in utero is no more under the influence of the mother's emotions than is an embryonic chick in the egg covered by the brooding hen. He did not state, however, whether there was any difference between the egg in the hen before the shell was formed and the egg in the nest, as regards its power of receiving impressions. There is absolutely no analogy in his comparison. Having said so much by way of introduction, I wish to report the following cases which have never been in print before, and which, to my mind, are genuine cases of maternal impressions.

Years ago, one of my aunts lay upon her death-bed, and the relatives were all assembled to bid her a last good-by. One of her aunts, who lived at a distance, did not arrive until just before my aunt died; and as she approached the bedside the dying woman recognized her voice and tried to greet her with a look of welcome, but so near to death was she that only the right eyelid obeyed the impulse of the will, the left remaining almost closed, which gave a peculiar expression to her countenance. It affected the visiting woman very greatly, and was frequently referred to by her for weeks afterward. At the time of the death-bed scene she was four months gone in pregnancy; and when, five months later, her child was born, there was the same degree of ptosis as was observed in the case of the dying woman, the same eye being affected. The eye was normal in every other respect.

Sceptics might say that the above case was only a coincidence, there being many cases of congenital ptosis; but what follows ought to convince the most sceptical, as two cases following each other so closely, in both of which there had been strong mental emotions of a certain character, would hardly be mere "coincidences." When the child just referred to was born, the mother recalled the effect which her niece's case had had upon her, and attributed the ptosis to it. It became the talk of the neighborhood, and everyone was anxious to see the child. Among the visitors was a distant relative of mine, who was also enceinte. She did not think of her own condition, and was surprised, when her son was born, to find exactly the same defect there was in the first child.

To my mind these cases prove that birth-marks are possible, and that they do occur. Both of the children have grown to manhood, and the ptosis is as marked today as it was when they were born. Neither woman expected her child to be marked.

Another case was that of a woman four months pregnant, who spent the day with a family where there was a child having convulsions, of which it died. Between the convulsions the muscles, especially those of the eyes, "twitched all the time," as she expressed it. She said the case seemed to fascinate her. Many times during the day she resolved not to look at the child again, and as often found herself watching it. When her child was born its eyes "kept rolling all the time, and all its movements were jerky."

A case reported by the writer in THE MEDICAL RECORD in 1888, was that of a woman who cared for some sheep during her pregnancy, and when her child was born its head was covered with a growth which seemed to be exactly like lamb's wool. She does not remember having been frightened by a sheep. The child is now four years of age and is

perfectly developed in all other respects. Her woolly head gives her a very peculiar appearance. There is no African blood in either of the child's parents. An interesting feature of the case is, that the wool never gets long enough to need cutting, and always falls out in the spring. I had some of the wool subjected to a microscopic examination, with the result that it showed the microscopic structure of hair; "but," the microscopist wrote me, "that does not interfere with the birth-mark theory, since the woman had no conception of the microscopic appearance of wool, and could only transmit to her offspring the impression as it was conveyed to her." Children are not marked with the *real* object, but with the resemblance of the object.

A woman who was pregnant, was watching at the bedside of her dying husband. Her left hand was held in his so tightly that it became painful. He died holding her hand in this manner, and when her child was born there were only the merest traces of rudimentary fingers upon its left hand. I do not know how far she was advanced in pregnancy when the impression was made.

A friend of the writer kept a fine stallion, and a pony stallion which he used as a "teaser." A fine thoroughbred mare, that had never been bred before, was covered by the stallion, and three weeks later was brought back to be tested as to whether she were with foal or not. Not wishing to excite the stallion that had covered her unless it were necessary, they used the "teaser," which she did not take, and at which she became very angry, biting and kicking at him viciously. In due time, and without being covered again, she foaled, and the colt was marked exactly like the teaser. There were no marks upon either the stallion or the mare, nor in their pedigree. The stallion got forty other colts that season, and none of the rest was marked in any way. Stock-breeders have come to recognize the fact of maternal impressions, and have done away with the use of an inferior horse as a "teaser."

Sometimes young mares are very difficult to get with foal the first time, and a jack, which is generally a sure getter, is used. Often the colts which are got by thoroughbred stallions from the same mares afterward, even to the third or fourth colt, bear strong characteristics of the mule. This is explained by breeders as being the result of the stronger excitement and greater impressibility of the young mare at the time of her being first covered.

I could cite numerous other instances that are better explained by the birth-mark theory than by any other, but they are not well enough authenticated to exclude doubt.

Although I cannot explain the theory of birth-mark, and do not attempt to, yet I am a firm believer in maternal impressions.

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THE MODE OF ORIGIN OF HÆMOGLOBINURIA.—M. Lépine, in a recent communication, proposed the separation of cases of hæmoglobinuria into two classes, viz.: Those which depended on free hæmoglobin in the blood, and those of renal origin, depending on renal congestion and rupture of vessels in the kidney. If there was slight rupture of vessels in the glomeruli, and a few corpuscles escaped into the capsule of Bowman, these were broken up by the serous fluid which they found there, and their components were passed with the urine. He illustrated the possible local origin in the kidney without general ill-health by an experiment on a healthy dog. A cannula was introduced into each ureter, and one filled with sterilized water, the other with ammoniacal urine, the pressure in the two being equal. This condition was maintained for three hours, and then the urine drawn off with the cannulæ. That on the side of the water was normal, that on the other side contained abundant hæmoglobin, but no blood-corpuscles. Now, as ammoniacal urine preserves any corpuscles that enter it, the inference would be that the corpuscles in this case were not broken up in the general circulation, but immediately before entering the renal tubules.—*Lyon Médical.*

# Clinical Department.

## AN OBSTETRICAL EYE-BANDAGE.

BY GEORGE E. ABBOTT, M.D.,

NEW YORK.

DURING the average confinement, at the end of the second stage of labor, while the accoucheur is busy tying the cord and afterward (with the assistance of the nurse) is attending to the safe and neat completion of the third stage, the baby is busily engaged in inoculating his eyes with cultures of vernix caseosa, etc., and often has such success that, like many another scientist, he, in due time, becomes blind to everything else, but by no means dumb.

To prevent this result I have of late practised as follows: As soon as the child is born, and while I am waiting for the pulsations in the cord to cease, I give the care of the uterus to the nurse and carefully cleanse the face of the baby with damp aseptic cloths, and place over the eyes a narrow bandage (about two inches wide and a yard long), also damp and aseptic, and secure it with a safety-pin, then cleanse the baby's hands, tie the cord, wrap the child in flannel, protected by a diaper, and let it care for itself with perfect safety, until the nurse is ready to wash it.

Thus far I have had no ophthalmia neonatorum.

Of course this will not prevent all ophthalmia, especially those catarrhal forms due to bright light, cold, smoke, dust, and gases, from ill ventilation; but by its use, those severe and distressing blennorrhœal forms of gonorrhœal, septic, and puerperal infection will, I believe, be largely prevented.

19 EAST SIXTY-FIRST STREET.

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## CEREBRAL ABSCESS SUCCESSFULLY TREATED BY TREPHINING.

BY J. W. WRIGHT, M.D.,

BRIDGEPORT, CONN.

J. S——, aged forty-one, habits intemperate, was admitted to the Bridgeport Hospital, June 4, 1889, after having served a term of six weeks at the jail for assault. While there he had delirium tremens, and beat his head against the cell walls, producing multiple abscesses, for which he was brought to the hospital for treatment. The whole scalp was infiltrated with pus. Two openings already existed on the top of the head, and four more were made at the most dependent portions of the abscess cavity, two on the right and two on the left side of the head, and daily syringed with a $\frac{1}{2000}$ bichloride solution. Intense general headache followed the dressings, lasting for some hours. His temperature during the whole of his illness ranged from 98° to 100° F. The abscesses healed kindly, and the headaches became less severe. His skin was bronzed and eyeballs yellow. About July 6th he complained of a feeling of numbness and weakness in the right hand. On examination I found the right leg, arm, and face paretic. From this time he complained of a severe pain over the left parietal bone, at intervals. The paralysis continued about the same, and for short periods he was aphasic until July 18th. By this time the scalp abscesses had nearly healed, and the dressings had been removed. On this day he seemed more stupid, but answered intelligently when aroused. The following day he was in a comatose state, passing his fæces and urine incontinently; the pupils were contracted and irresponsive to light; the pulse was 48 to 50, and the respiration slow but regular.

On consultation it was thought best to operate, in the hope of finding an abscess in the region of the motor centre of the arm. On July 20th the head having been shaved, and the ordinary antiseptic precautions being taken, the fissure of Rolando was mapped out by the rules laid down by Lucas-Championnière, and a semilunar flap of the skin and periosteum reflected; an inch trephine was then applied over the spot previously indicated by a small drill hole through the skin, and the brain was exposed; the dura mater was now reflected, and an aspirating needle was thrust into the substance of the brain. No pus appearing the needle was withdrawn and reintroduced a little posterior and downward, when the barrel of the syringe filled with pus—two drachms. The blades of a dressing-forceps failing to find the cavity, a straight, narrow-bladed bistoury was introduced two inches, and the distal end of a soft rubber cathether inserted, through which eight drachms of pus were withdrawn and the cavity washed with water (which had been boiled) until it ran clear. The drainage-tube was left in, the flap stitched down, and the dressings applied.

The following day he pulled out the drainage-tube during the temporary absence of the nurse, and, holding it in his hand when she returned, asked "if he had done any harm?" Apparently not, for the wound has healed, the paresis is disappearing, and he is able to sit up, eats with a good relish and answers questions intelligently.

## PLACENTA PRÆVIA CENTRALIS.

By CHARLES E. WILLIAMS, M.D.,

HOULTON, ME.

Mrs. Z——, aged nineteen, pregnant for the first time, at eight months was seized with profuse hemorrhage on Sunday, August 4th. The hemorrhage continued with intervals of remission until Tuesday morning, when the physician who was in attendance asked for a consultation.

On my arrival I found the patient excessively weak from loss of blood, with blue lips, sighing respiration, a pulse of 120 and irregular. The bedding was soaked with blood and the vagina filled with clots. There was the baggy feel to the vaginal vault peculiar to placenta prævia, the os was dilated so as to admit a finger, and efforts at examination or movements of the patient excited flowing. Failing in my efforts to introduce a Barnes bag, I firmly tamponed the vagina and ordered stimulants and nourishment.

Leaving the patient in the hands of the attending physician, I left to visit other cases. Returning after five hours, I found that no hemorrhage had occurred. The patient was weaker, however, with a pulse of 130. Removing the tampon, I found the os dilated to the size of a half-dollar. I partly introduced the hand within the vagina and two fingers within the cervix, and making counter-pressure externally, I swept the fingers about the lower zone of the uterus, separating the placenta as I proceeded and causing some hemorrhage; working rapidly and crowding down the uterus with the left hand, I finally succeeded in reaching the placental edge on the right side. The distance reached by the fingers and subsequent examination of the placenta, convinced me that it was a case of central implantation.

Tearing through the bag of waters, the placenta retracted to the left and the head presented at the cervix. Administering a little ergot the case was left to nature, and in two hours I delivered the woman of a dead child.

Immediately after the birth of the child, the mother's pulse ran up to 160 and was hardly perceptible at the wrist. There was sighing respiration, apparent unconsciousness, and extreme faintness of the heart-sounds. The body became cold and the case seemed almost hopeless. Under hypodermics of brandy and external warmth, after two hours of steady work, she began to rally; the pulse grew stronger and fell to 132, and she broke out into a warm perspiration. From that time on she has made a slow but gradual recovery.

## PRIMARY SYNCHRONOUS TRIPLE AMPUTATION OF LEFT THIGH, RIGHT LEG, AND RIGHT ARM, FOR RAILROAD INJURY.

By W. W. WILLIAMS, M.D.,

WICHITA, KAN.

Johnny S——, four years of age. On the afternoon of May 3, 1889, I received telephone message to come to stock-yards at once, that a boy had been run over by the cars. On my arrival, I found the boy lying on the bed with right arm torn off just below the elbow, and lying near the bed. The right foot and ankle were crushed, and the left leg below the knee had both bones broken, and the flesh was crushed into a pulp almost to the ankle. The bleeding had been checked by pieces of cord tied around the limbs. I administered a hypodermic injection of morphine and atropine, also some whiskey. He soon rallied from the shock, and when reaction had taken place, my assistants, Drs. Purdy, Fabrigue, Fordice, and Van Nuys, of this city, having arrived, I amputated by the circular method in the following order: right arm, middle third; right leg, middle third; left thigh, middle third.

The boy was put to bed and surrounded with bottles of hot water; he rallied promptly from the anæsthetic, had a hypodermic injection of sulph. morphine and atropine at eleven o'clock at night, slept some, and took some milk through the night. At eight o'clock the next morning the temperature was 99° F.; pulse, 90. The boy had a ball in his hand, and said he could play ball anyway, and wanted milk. At twelve o'clock, noon, the temperature and pulse were the same. At 7 P.M. I received a telephone message to come at once, as the boy had a spasm, and they thought he was dying. Dr. K. F. Purdy and I arrived in a short time. The patient was then resting, with a pulse of 110, and temperature of 100° F. At nine o'clock the next morning, his temperature was 102° F.; pulse, 130. He could hardly be aroused, and continued in this state until four o'clock the following morning, when he expired. The dressings were not soiled, and were sweet and nice. No hemorrhage. I thought the prospect rather good the first twenty-four hours. The boy lived about sixty hours after the operation. I think he died from secondary shock or exhaustion. I only know of about six cases of recovery after injuries requiring synchronous triple amputations, and would like to know the mortality after such operations. I think if we would report our unsuccessful cases as well as the successful ones, we could soon have an idea as to what the mortality may be.

## VIPER-BITE TREATED BY ALCOHOL.

By JOHN B. HAWES, M.D.,

ASSISTANT SURGEON STEPHANS HOSPITAL, REICHENBERG, BOHEMIA.

In making my rounds of the wards on Sunday, the 7th of July, my attention was attracted by a priest administering the last sacrament to a youth. The religious ceremony being ended, I proceeded to examine the patient, a boy aged twelve, and found that twenty-four hours before, while gathering whortleberries, barefooted, he had been bitten by a viper in the toe. The marks of the fangs were plainly to be seen.

The boy was unconscious, pulseless, and cold. The leg swollen to the hip and quite blue. A faint and very rapid heart-beat, and a hurried and superficial respiration showed plainly the desperate condition of the patient. Hot claret and warm covering had been used against the collapsed condition, but the patient vomited the claret immediately. The doctors, who had been in consultation,

had informed the family that the boy must die, and at the time of my visit the father and brother were waiting in the corridor, expecting every moment to be informed that the end had come.

I ordered a bottle of fine cognac at once, and at four o'clock P.M., commenced giving teaspoonful doses of pure brandy by pouring it well back on the tongue every five minutes. Not until about six o'clock was any improvement to be noticed, although the brandy was retained. At this time, however, the pulse was to be felt, though it was very faint.

This treatment was kept up, increasing the intervals somewhat between the doses, until midnight, when the patient was conscious and the heart's action improving. After ordering tablespoonful doses of cognac to be given every half-hour during the night, I returned home.

The next morning the visiting doctors were astonished to find the boy not only alive but very drunk, the heart working beautifully. He had taken in this time about fifteen ounces of brandy. The leg had in the meantime been rubbed every half-hour with camphor-water, and its warmth and rosy spots here and there showed the renewed circulation. The brandy was discontinued and the external treatment kept up. Rubbing, however, caused much pain, as the limb was extremely tender. Owing to this fact, indeed, the patient could not be discharged until the 19th, twelve days after his admission, though he had entirely recovered from the effects of the bite, as well as of the brandy, by the fourth day.

The case has excited much interest here, and was published in the Vienna and Prague, as well as the local, journals, as a novelty; for, strange to say, the doctors here were not familiar with the cowboy method of treating snake-bites.

The interesting point in the case is that the alcohol produced its effect at so late a stage, and that it caused no vomiting.

## Progress of Medical Science.

PUERPERAL INFECTION AND ERYSIPELAS.—The infectiousness of puerperal fever was first formally asserted by Semmelweis, of Vienna, in 1849, but was not definitely established until Pasteur turned his attention to it, in 1879. He showed conclusively that a certain variety of micro-organism was invariably found in the tissues of women who had succumbed to this malady. This micro-organism, when injected beneath the skin of animals, gives rise either to septicæmia or pyæmia according to the method of cultivation employed, and thus the identity of the two forms of puerperal infection was demonstrated. The streptococcus found in the tissues of the victims of puerperal disease was noticed to present a well-marked resemblance to the micro-organism obtained from erysipelas, and clinical experience has long pointed to the existence of a relationship between these two diseases. Within the last three or four years M. Vidal has been enabled, by a series of elaborate and carefully conducted experiments, to show that the streptococcus of puerperal fever gives rise to erysipelas in animals, and produces the same clinical symptoms as the micro-organism obtained from ordinary erysipelas. A very important point which has been made clear is, that the same micro-organism may cause maladies which differ from each other very materially from a symptomatological point of view, according to the method of inoculation and the medium in which it multiplies.—*The Medical Press.*

TREPHINING OF THE PELVIS IN THE TREATMENT OF SUPPURATIVE PSOITIS.—Dr. Gangolphe, of Lyons, advocates trephining of the ilium in the treatment of suppurative inflammation of the psoas muscle. This affection is regarded as a very serious one, on account of the critical condition of the patient in the majority of such cases, of the extent of mischief, and of its possible extension to the hip-joint. Prompt release of the pus is the best means of preventing a fatal issue. If the surgeon be guided by the general practice, and wait until fluctuation be felt in the lumbar or inguino crural region, he will certainly find that the whole of the psoas muscle has then become disorganized, and possibly may favor by his delay perforation of the hip-joint and secondary arthritis, which complication invariably leads to a fatal issue. Dr. Gangolphe claims that the operation devised and performed by him presents no difficulty, and is free from danger. The ilium is perforated at a part three fingers' breadths below the highest point of the iliac crest, and five fingers' breadths from the antero superior spine. An incision about three inches in length having been made through the skin and fascia parallel to the course of the glutei, the fibres of these muscles are separated by director and finger. A second incision about two and a half inches in length having been made through the skin only, at right angles to the former, in order to allow free exposure of the ilium at the seat of operation, the periosteum is detached, and the whole thickness of the bone removed by gouge and mallet, so as to form an orifice of about the size of a two-franc piece. The situation of this orifice, the author has found by anatomical observations, corresponds in the horizontal decubitus of the subject to the most dependent part of the internal iliac fossa and also to the thinnest part of the ilium. Through this orifice the abscess cavity can be readily drained and washed out by injected fluids. This operation may be associated with the ordinary lumbar, inguino-crural, or even posterior-crural incisions, according to the circumstances, if the suppuration has extended into any of these regions.—*Revue de Chirurgie.*

THE CHOICE OF SUTURES IN ABDOMINAL SECTION AND THE CÆSAREAN OPERATION.—After carefully sterilizing samples of carbolized gut, chromic gut, silk, and silkworm gut, of similar thickness, Dr. Thomson made use of these materials in the following manner: Rabbits, cats, and dogs that had just given birth to young were selected, and an incision was made in the cornu of the uterus on each side, in each case. The incision was closed by suture, different material being used on opposite cornua. Sutures were also applied to the omentum and abdominal wound, in order to ascertain if they were there subjects to more or less rapid changes than the sutures in recently pregnant uterine tissue. No difference could, however, be detected in this respect. The animals subjected to experiment were killed at different intervals of time, the sutures being carefully inspected. The carbolized catgut sutures were found to be very thin in the subjects killed at the end of a week, and reduced to mere relics in the neighborhood of the knots at the end of ten days. Chromic gut remained absolutely unaltered, even at the termination of sixty-four days. The cut ends were more or less covered in by membrane. Silk ligatures were found loosened, yet entire, at the end of fourteen days. Nothing but scanty relics of this material remained at the end of sixty-four days. At the termination of the same period silkworm gut was found absolutely unchanged, the still sharp-cut ends of the sutures made of this material projecting freely into the peritoneal cavity. Dr. Thomson concludes that silk is the best and safest material for suture, particularly for the uterine wound in Cæsarean section. Chromic and silkworm gut, as well as silver, are bad materials, as they never undergo absorption; while, on the other hand, carbolized gut becomes absorbed too early.—*The London Medical Recorder.*

ONE DANGER IN THE TREATMENT OF OBESITY.—In a study of five cases of movable heart, Dr. Rumpf found that three of them were justly attributable to attempts to cure obesity.

TO ARREST HEMATEMESIS.—Hot water, as hot as can be drunk, is said to have been effectual in controlling several cases of gastric hemorrhage.

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## THE DECAY OF OPHTHALMOLOGY.

DR. WILLIS VAN HOOK has been lifting up his voice in the *North American Practitioner*. He there asserts that ophthalmology is sinking into hieroglyphic decadence. Its records are no longer made in plain English, or even technical English, but are condensed and crumpled into cryptographic formulæ, or compressed into lurid lines of mystic, eye-straining, algebraic symbols. "There was a time," he writes, "when a general practitioner, of modest attainment, yet industrious withal, might learn a little about the eye. But now see to what an extent of endurance must the aspirant's patience be cultivated. For, besides being a littérateur, a mathematician, a physicist, a traveller, a linguist, a connoisseur in malt liquors, a mechanic, an after-dinner speaker, and, in a word, a true microcosm, the ideal ophthalmologist must have an accurate knowledge of such a perversion of typography as was never dreamed of by the scientific and philosophical Benjamin Franklin, the patron deity of the compositor.

"The 'literature' produced by these peculiarly educated beings looks as if afflicted by some dire eruption of which the pathology yet awaits elucidation. In the presence of this typographical eruption and the anticipated omniscient culture, the ordinary medical reader is pitifully lost in attempting to follow the vagaries of the ophthalmographer. For who, pray, but one inured to mental penance could comprehend the impetuous writer, carried on by a burst of impassioned eloquence through the exciting details of a case of ciliary spasm, when he concludes a glowing history with the statement that 'the spasm still exists, being equal to —25 D. ⊂ —0.75cy axis 75°?'

"These artificial and arbitrary hieroglyphics, thickly and increasingly scattered through ophthalmological literature, indicate a misdirected and mischievous energy, which, if not turned into more profitable lines of action, will completely exclude from a knowledge of this branch of our art that pariah of medicine, the general practitioner, unless he painfully and heroically masters its Volapük."

We sympathize with Dr. Van Hook, but we do not think he has completed his indictment.

There was a time when the ophthalmologist, before taking up his specialty, learned general medicine and surgery. He walked the hospitals, he studied pathology and physiology; he interested himself in the general welfare of the physician, and in the various economic and scientific questions which arose.

Now the "eye-man" jumps from a three years' course in a medical college to an eye-class in a dispensary, and in a few years is a full-fledged ophthalmologist. The specialty is thus being filled with men no doubt able and ingenious, but utterly narrow in their medical knowledge, and but little more in touch with the general line of medical work than is the dentist or the chiropodist.

## A WORD UPON THE REGULATION OF PROSTITUTION AND SEXUAL HYGIENE.

THERE are still a good many sanitarians to whom public health is a fetich before which they would sacrifice every other social or economic interest. Some of these enthusiasts would gladly serve the devil in order to reduce the mortality-rate. When individuals of this class have minds of a somewhat erotic tinge and have had perhaps some severe blennorrhagic experiences in their youth, they become intensely alarmed over the spread of syphilis and begin to advocate the regulation of prostitution.

To such persons we would strongly recommend a recent communication of Professor Aug. Forel, of Zurich, to the *Correspondenzblatt für Schweizer Aerzte*. Forel embodies in his article a report by Dr. Nicolsky upon the regulation of prostitution in Kiew. This report contains the result of a careful study concerning the extent and spread of syphilis and chancroid among prostitutes submitted to regular medical examinations during the years 1886 and 1887. It was found that, among the five hundred prostitutes of the city in question, about forty-three per cent. had syphilis or soft chancre, or both, there being six times more syphilis than soft chancre. In some houses the percentage of chancre and chancroid was sixty-six per cent., and there was found to be a yearly increase in these diseases among the controlled prostitutes. A committee of the Medical Society, under the direction of Professor Stukowenkof, made a further report upon the subject of prostitution and the spread of syphilis. They advocated the establishment of special hospitals and dispensaries for the venereal diseases, so as to secure prompt and efficient treatment of infected cases. They also recommended the instruction of the laity, by lectures and pamphlets, as to the dangers of syphilis. They condemned as ineffective all attempts to regulate prostitution by the State.

Professor Forel takes the above as a text for some very vigorous and sensible words regarding masturbation and prostitution. He, as an alienist, often met young neurasthenics and hypochrondriacs who had been prescribed fornication by their physicians. They had got some venereal disease, but had not been cured of their nervous troubles, for prostitution is no cure for onanism. There are, says Forel, several types of onanism. There is the imaginary masturbator, who thinks he has abused himself, but who in reality has rarely done so. These are usually hereditary psychopathic and hypochondriacal persons. Then there are persons with congenital sexual perversions, who masturbate often and in some outlandish way corresponding to their psychical abnormality. Again, there are those, and they are many, who are simply led on by example, and who stop as soon as they learn that it is unmanly and pernicious. Fourth, there are those who, through early sexual excitement or local irritation, are led to the habit; and finally, there are those, the so-called "nothonanisten," who have no opportunities for natural sexual indulgence.

Forel asserts that onanism, except in early age and in excess, is not seriously harmful. It should, of course, be severely condemned and stopped, and the health of the system allowed to depend upon nocturnal discharges. There are, he says, no psychoses resulting from chastity, but plenty that come from sexual excess and venereal disease. Professor Forel joins most heartily in the view of those physicians who, purely for physical and sanitary reasons, teach that continence is the wisest and safest course, and the surest preventive of venereal disease.

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### ALCOHOLISM, CRIME, AND INSANITY.

THE time must soon come when the question of the proper method of dealing with the alcohol question will become one for statesmen, rather than, as now, for fanatics and politicians to consider. The facts and statistics recently brought out at the Congress of Alcoholism in Paris, illustrate this very well. One of the topics for discussion was the relation of alcoholism to crime. Everyone knows that excessive alcoholic indulgence leads to crime, but the attempt was made to show a direct relation between the two.

The following tables were given. In France the average amount of alcohol consumed *per capita* was in

| | |
|---|---|
| 1873-77 | 2.72 litres. |
| 1878-82 | 3.53 " |
| 1883-87 | 3.83 " |

The increase of crime was from 172,000 to 195,000; the increase of insanity from 37,000 to 52,000. In Belgium the figures were:

| | | | |
|---|---|---|---|
| 1851 | 138 litres beer, | 5 87 alcohol, | 2.00 wine. |
| 1871 | 159 " " | 7.66 " | 3.55 " |
| 1881 | 170 " " | 9.75 " | 3.75 " |

There was during this period almost a doubling in crime, suicide, and insanity.

In Italy a similar increase of alcoholism, crime, and insanity was shown.

In Norway, since 1844, the amount of alcohol consumed has gradually been reduced from ten litres per inhabitant to four litres (in 1876), with a corresponding decrease of crime.

The above figures are certainly very striking, and it is particularly instructive to learn that the decrease of crime and alcoholism in Norway has been due, not to prohibition, but to lessening the number of licenses, increasing the tax on spirits, and the temporary depression in business.

It will not do, however, to trace all the increase of crime and insanity to alcohol. In Bern, for example, where there are only 4 saloons to 1,000 inhabitants, crimes were more numerous than in Zurich, where the ratio is 12 to 1,000. Professor Vauderoy, of Liège, asserts that the increase of the tax on spirits in Belgium has had but a slight result; and Dr. Icovesco, of Roumania, asserted that in a district in his country where a large number of saloons were closed, alcoholism continued to increase.

Such exceptions must be borne in mind, but on the whole it seems to be quite certain that a high tax or license, and a reduction in the number of saloons and total amount of alcohol consumed, is followed by a diminution in crime.

The statistics of some of our own cities carry out this view.

### MEDICINAL USE OF HYDROGEN PEROXIDE.

IT is with pleasure that we peruse the new issue of *Squibb's Ephemeris* for July, 1889, confident as we are that whatever it tells us is in accord with the latest scientific advances, and is the result of careful thought and research. Among its articles is one by E. R. Squibb, on "Hydrogen Peroxide" (published also in *Gaillard's Medical Journal*, March, 1889). This substance, which is one of the most powerful, and at the same time the least harmful, of all antiseptics and disinfectants, has never come into general use, probably because it is so unhandy and spoils so readily (Dr. Squibb thinks it is because it is so little known and so little understood). It is made in large quantities by several large firms, but is used chiefly in the preparation of secret remedies. Its properties have been known for a long time. It is a compound of hydrogen and oxygen which is easily decomposed, yielding water and nascent oxygen which quickly oxidizes substances with which it is in contact. The mere application of a solution of peroxide of hydrogen to certain albuminoid substances is sufficient to liberate its oxygen, which immediately coagulates the albuminoid substance within its reach. Thus all sorts of virus, whether propagative or not, are destroyed or, by coagulation, rendered inert in its presence, just as when strong corrosive sublimate solutions are applied to them. The undiluted liquid peroxide is from its nature very unstable, and, on slight disturbance, breaks up into water and oxygen with almost explosive rapidity. Therefore, it is never made nor used undiluted, but is always dissolved in water. The "peroxide of hydrogen" which is furnished to the physician is really a solution of the pure liquid in water to which a little hydrochloric acid has been added, the acid being necessary to prevent rapid decomposition of the peroxide. A solution which will yield its own volume of active (nascent) oxygen is called a one-volume solution. The fifteen-volume solution (yielding fifteen times its volume of nascent oxygen) is that which is generally supplied by the makers. It is put up in pint bottles, containing about fifteen fluid ounces, sold at $9 a dozen. It is colorless and nearly odorless, tastes slightly acid, and leaves a slight, fleeting, not unpleasant after-impression. Changes in this solution are indicated by the formation of bubbles of gas, which rise through the liquid or adhere to the sides of the bottle, and also by increased pressure within the bottles. At or below 59° F. the solution does not change for a long time. At 68° F. it does change, sometimes very rapidly, giving off oxygen gas. The solutions, whether strong or dilute, should be kept cool, outside the window of the sick-room in winter, and on ice or in ice-water in summer. The bottles in which the solutions are contained must not be held in the hand for any considerable time, as its warmth will cause decomposition. It must not be kept in contact with metals, nor applied by means of metal apparatus, as it not only ruins the instruments, but forms poisonous salts from the metal. It does not attack hard rubber or glass. It is not necessary to apply it as strong as when it comes from the maker. The ordinary fifteen-volume solution sold is not injurious, but it is stronger than necessary, and to use it undiluted is wasteful. For the irrigation of a child's nostrils, pharynx, and mouth, a two-volume (made by adding two ounces of the fifteen-volume solution to a pint of water)

solution may be used every two or three hours, and any part of this solution passing into the stomach will do good rather than harm. Adults and children who can gargle—especially in scarlatina and diphtheria—may use, as a gargle and mouth-wash, a three-volume solution (three ounces of the fifteen-volume solution to a pint of water). For vaginal injections, as in cancer, etc., a thorough washing with the one-volume solution will often suffice, but it may be necessary to increase the strength until the desired effect is produced. When cloths wetted in a solution are laid upon external sores they should be covered with oiled silk. The methods for testing the activity of any solution are given in full, but need not be repeated here. Mr. Charles Marchand, of No. 10 West Fourth Street, New York City, is referred to as one of the best makers and furnishers of hydrogen peroxide. It is very necessary to get a good article, as careless preparation and after-handling may render it inactive. It is desirable that it should be applied very early when used in diphtheria, before the deposits in the throat have caused disease of the adjacent parts or of the general system.

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### THERAPEUTIC WORK AT THE PARIS EXPOSITION.

AMONG the most interesting of the various world's congresses now being held in Paris, was that on therapeutics and materia medica. The occurrence of such a congress is itself a matter of note, for heretofore attempts to bring together medical men to discuss therapeutics alone have not been very successful, and therapeutical societies have always been failures. The work at Paris was to a considerable extent, however, directed toward the question of antiseptics and anti-microbian agents. One of the leading topics for discussion was that of "the antiseptics proper to each pathogenic microbe." M. C. Paul contributed the most important facts on this point. He gave tables showing first the minimum amount of substances sufficient to prevent putrefaction in a litre of beef-tea; the three most powerful agents were oxygenated water, corrosive sublimate, and nitrate of silver. The substances which most surely destroyed cultures of the typhoid fever bacillus were sublimate in proportions of 1 to 20,000, sulphate of quinine, 1 to 800, and carbolic acid, 2 to 200. In the subsequent discussion, M. Petrescii, of Bukharest, stated that, practically, in the treatment of typhoid fever, he had found sulphide of carbon (*sulfure de carbon*) and naphthol most effective, while M. Semmola recommended sulphur in doses of 1 to 20 grammes daily.

As to the tubercular bacillus, M. Paul gave the following list of substances which he said sterilized cultures completely: hydrofluosilicic acid, sal ammoniac (*ammoniaque*), fluosilicate of iron, or fluosilicate of soda, *polysulfure de potassium*, and silicate of soda. From this list it would look as though the silicate salts were especially antagonistic to the phthisical process. In the discussion upon this point M. Rueff gave an elaborate account of his method of treating phthisis by pulverizations of biniodide of mercury. He claimed that by it the patient received into the lungs, at each treatment, 3 milligrammes of biniodide, or sufficient to disinfect 80 grammes of sputum. M. Rueff's method has, however, been tried by others with very little success.

## News of the Week.

DENOUNCING A DOCTORS' TRUST.—The Farmers' Alliance of Georgia is reported to have adopted the following resolutions:

"*Whereas*, We have been informed that some of our physicians have gone into a combine, or organization equivalent to a combine, that is detrimental to our interests; therefore, be it

"*Resolved*, That we publicly denounce any such organization, and also any physician who has or may hereafter attach himself to that or any other similar organization; and we will not patronize any physician who belongs to that society when we can do better."

DARTMOUTH MEDICAL COLLEGE.—The plans for the Hitchcock Memorial Hospital, at Hanover, N. H., have been formally accepted. Work will be commenced in season to complete the foundations this fall. The structure will be of brick, with Portland-stone trimmings; about two hundred feet long, with accommodations for thirty patients. The estimated cost, exclusive of land, is $50,000.

RAILWAY CASUALTIES.—In a late issue of the New York *Railroad Gazette* is a report of the accidents which occurred in the month of May, 1888, and chronicles 145 as having happened in thirty-one days. In the catastrophes of importance enough to be mentioned there were 43 deaths and 158 injuries. The nature of the accidents is tabulated as follows:

| | |
|---|---|
| Rear collisions | 32 |
| Butting collisions | 27 |
| Crossing and others | 4 |
| Derailments | 75 |
| Unclassified | 7 |
| Total | 145 |

Passenger trains involved, 57.

This, we are told, is about an average month, and consequently the railway monster requires the sacrifice of about five hundred people yearly to satisfy his maw.

LONDON POST-GRADUATE COURSES.—After a good deal of discussion, a kind of post-graduate college has been established in London, by members of the medical staffs of Brompton Consumption Hospital, the Hospital for Sick Children, the Hospital for Paralyzed and Epileptic, the Moorfields Ophthalmic Hospital, and the Blackfriars Hospital for Diseases of the Skin. No names of teachers are mentioned in the advertisements.

QUADRUPLETS.—Dr. J. E. Shore reports the birth of four living children (*Omaha Clinic*). The mother is a woman of forty and the father is sixty-six.

THE MISSISSIPPI VALLEY MEDICAL ASSOCIATION meets next week (September 24th–26th), at Evansville, Ind.

A NEW DISEASE-GERM WANTED.—The Vermont Microscopical Association has offered a prize of $250 for the discovery of a new disease-germ. Information can be obtained of C. Smith Boyton, M.D., Secretary of the Association, Burlington, Vt.

PROGRESS OF MEDICAL EDUCATION.—The Iowa State Board of Health has decided that Iowa medical colleges

after 1891 must give a four years' course, if they desire their graduates to be admitted to practice within the borders of the Commonwealth.—*The Medical Age.*

BUT ONE MORE CONGRESS of interest to medical men is to be held in Paris this year, viz., the Congress of Hydrology and Climatology. This meets on October 3d, under the presidency of M. E. Renou. A Congress of Otology and Laryngology was held during the past week, under the direction of Dr. Duplay.

CARBONIC ACID IN PHTHISIS.—Dr. Hugo Weber describes a novel way of treating consumption, in the *Berlin. klin. Wochenschrift*, September 2, 1889. This consists in administering to the patient a teaspoonful of bicarbonate of soda before meals and following it with a glass of water containing twelve drops of muriatic acid. There is generated about half a pint (270 cc.) of $CO_2$, which is gradually absorbed and exhaled by the lungs. Weber reports nine cases in some detail favorably affected by this treatment.

DEATH FROM THE FAITH-CURE.—A young woman died in Brooklyn on September 12th of typhoid fever. She had been under charge of a faith-curer, and it is said persistently refused to summon a physician, in which refusal she was supported by others of her family. The coroner held an inquest and the jury brought in a verdict that the death was due to typhoid fever, hastened by criminal neglect on the part of the faith-curer, who was held for the grand jury.

THE BROWN-SÉQUARD INJECTIONS.—Dr. Alex. Szikszay has experimented with the Brown-Séquard testicular injections upon a number of aged Budapestians, whose returned vigor is celebrated in the *Pest. med.-chir. Presse*, and thence, via the medium of the daily press, throughout the land. Professor S. A. Rogers reports the results of injections in fifteen cases and states that they are "satisfactory" (*Memphis Journal of Medical Sciences*). Dr. Winslow Anderson reports the result of a careful trial on a single case, an old man of seventy, upon whom seven injections were made. The patient gained three pounds in thirteen days, temperature increased from subnormal to normal, muscular power slightly increased, constipation ceased; all of which, however, might easily have been the result of mental stimulus. A Detroit chemist claims to have found a stimulating substance in testicular juice, viz., "spermine."

THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.—The next annual meeting of this Association will be held in Nashville, Tenn., November 12, 13, and 14, 1889. The following preliminary programme has been published: "The President's Annual Address," by Hunter McGuire, M.D., LL.D., Richmond, Va.; "Report of Gynecological Work, with Especial Reference to Methods," by R. B. Maury, M.D., Memphis, Tenn.; "Direct Herniotomy, with Cases," by W. O. Roberts, M.D., Louisville, Ky.; "Open Abdominal Treatment," by B. E. Hadra, M.D., Galveston, Tex.; "The Abortive Treatment of Acute Pelvic Inflammation," by Virgil O. Hardon, M.D., Atlanta, Ga.; "The Importance of Early Treatment of Inflammatory Affections of the Uterus," by William C. Dabney, University of Virginia; "The Relation of the Nerve System to Reparative Surgery," by Thomas O. Summers, M.D., Jacksonville, Fla.; "Concerning the Causes of Frequent Failure of Relief of Reflex Symptoms after Trachelorrhaphy," by W. F. Hyer, M.D., Meridian, Miss.; "Cranial Surgery," by DeSaussure Ford, M.D., Augusta, Ga.; "The Treatment of Ectopic Pregnancy," by W. H. Wathen, M.D., Louisville, Ky.; "Laparotomy in Extra-uterine Pregnancy," by Waldo Briggs, M.D., St. Louis, Mo.; "Epithelioma of the Penis, with the Report of a Case," by D. W. Yandell, M.D., Louisville, Ky.; "Laparotomy in Intestinal Obstruction," by C. Kollock, M.D., Cheraw, S. C.; "An Experimental Study of Intestinal Anastomosis," by John D. S. Davis, M.D., Birmingham, Ala.; "Operative Interference in Ascites," by Hugh M. Taylor, M.D., Richmond, Va.; "Observations Pertaining to Pregnancy and Parturition," by W. Duncan, M.D., Savannah, Ga.; "Puerperal Convulsions," by John Herbert Claiborne, M.D., Petersburg, Va.; "Some Remarks upon Aneurisms, Relating more Especially to their Surgical Treatment," by F. T. Meriwether, M.D., Asheville, N. C.; "Coccygodynia and its Treatment," by Hunter P. Cooper, M.D., Atlanta, Ga.; "The Improved Cæsarean Section *versus* Craniotomy," by W. D. Haggard, M.D., Nashville, Tenn.; "Conservative Surgery in Injuries of the Foot," by J. T. Wilson, M.D., Sherman, Tex.; "Gunshot Fractures of the Femur," by John Brownrigg, M.D., Columbus, Miss.; "Tropho-neurosis as a Factor in the Phenomena of Syphilis," by G. Frank Lydston, Chicago, Ill.; "Trophic Changes following Nerve Injury in Fractures, with a Report of Two Cases," by William Perrin Nicholson, M.D., Atlanta, Ga.; "Treatment of Malignant Diseases of the Rectum," by W. T. Briggs, M.D., Nashville, Tenn.; "The Achievements of Modern Surgery," by J. Ewing Mears, M.D., Philadelphia, Pa.; "The Treatment of the Pedicle in Suprapubic Hysterectomy," by William M. Polk, M.D., New York; "Abdominal Surgery," by Joseph Price, M.D., Philadelphia, Pa. Several other papers have been promised, the titles of which have not yet been announced.

DR. ERNEST LAPLACE, of New Orleans, has been elected to the Chair of Pathology in the Medico-Chirurgical College, Philadelphia. Dr. Samuel Wolfe, of Skippack, Pa., will fill the Chair of Physiology in the same institution for the coming year.

DR. GEORGE J. JANEWAY, of New Brunswick, N. J., died on Monday, the 16th inst., aged eighty-three. Dr. Janeway received his education at the University of Pennsylvania, graduating from its medical school in 1838. He then went to Paris, where he studied in the French schools and hospitals. He returned to New York the next year. In 1842 he moved to New Jersey, and five years later he became a physician in New Brunswick. He was mayor of the city one term—1869–71. Dr. Janeway had six children, among them being Dr. Edward G. Janeway, of this city.

THE ANNUAL MEETING OF THE AMERICAN RHINOLOGICAL ASSOCIATION will be postponed until October 9, 10, and 11, 1889, at which time it will be held at the Palmer House, Chicago, Ill.

THE first International Congress of Physiologists was opened at Basle, on September 10th, and sat for three days.

# Society Reports.

## BRITISH MEDICAL ASSOCIATION.

*Fifty-seventh Annual Meeting, held at Leeds, England, August 13, 14, 15, and 16, 1889.*

(Special Report for THE MEDICAL RECORD.)

(Continued from page 301.)

### SECTION OF MEDICINE.

THURSDAY, AUGUST 15TH—SECOND DAY.

DR. EDDISON, OF LEEDS, IN THE CHAIR.

DR. PAVY, of London, opened a debate on the

### PROGNOSIS OF ALBUMINURIA WITH SPECIAL REFERENCE TO LIFE INSURANCE.

The author of the paper said that the title of his paper had been chosen for him. The traditional view was that the presence of albumen in the urine was a reason for the instant rejection of candidates for life insurance. In former days, examination of the urine in patients had been less common and routine than it now was. Brinton and Sieveking dilated on the importance of examination of the urine in all cases presenting themselves for insurance policies. It had recently been found that albumen was present in many cases when it was not suspected, and the question had now been put, whether there might not be cases of albuminuria which might not cause the rejection of the applicant for such policies. Albuminuria sometimes occurred as a transient phenomenon. In forced exercise, such transient albuminuria occurred—for instance, in the case of the great pedestrian, Weston, who passed albumen in his urine after a walk of one hundred and fifty miles, which had greatly exhausted his powers. For a short time his urine was found to contain albumen and casts. Severe mental strain might produce transient albuminuria, as also might cold baths. When not transient, albuminuria might be grouped under three heads: when there was very little albumen, when a considerable quantity was found, and, lastly, when albuminuria was "cyclic," *i.e.*, existing only once in the twenty-four hours. A careful survey of all the collateral circumstances must be made. Bright's disease often was hereditary, or ran in families. Gout and lead-poisoning were likely to lead to some such affection. The other symptoms of the patient should be carefully attended to, such as any unusual pallor, impairment of vision, high arterial tension, want of appetite, or dislike to meat. The specific gravity of the urine would require attention, and a microscopic examination of it would be necessary in difficult cases. When casts in abundance were found in the urine such cases might be rejected as not fit candidates for insurance; on the other hand, absence of casts was not sufficient to show the patient to be a fit candidate. In some cases, in the male, casts of the seminal tubules and spermatozoa might be seen in the urine, which might be taken for casts of the tubules of the kidney, when no nephritis existed. Such were, in brief, the diagnostic marks of Bright's disease. In the first group, where only traces of albumen were found, it was not clear that kidney disease existed. Some tests for albumen were liable to objections because fallacious. The granular kidney was accompanied by very slight albuminuria. In the second group, where a certain amount of albumen existed constantly, it was probable that many such cases got perfectly well, and it was by no means invariably that the existence of nephritis could be detected in such cases, but a decidedly more than ordinary risk existed in these. As to the group of "cyclic" albuminuria, in many such cases there was no albumen found in the urine in the morning, but the amount increased during the day, and again, there might be none at night. As to admitting such cases as candidates for life policies, there was a certain amount of reserve to be made; although if they came as ordinary patients to the consultant, a greater degree of optimism as to the prognosis might be indulged in. Perhaps companies might come to admit such cases at a somewhat higher premium. The usual form of albumen met with in ordinary nephritis was serum albumen, but, in "cyclic" albuminuria, organic acids threw down a precipitate of mucin, and some serum albumen was precipitated by other mineral acids.

DR. MAGUIRE said that there were two groups of cases of albuminuria: the undoubtedly functional kind, and that not clearly functional. One great diagnostic symptom in this matter was the state of the pulse, and here the finger showed more than the sphygmograph. In cases of hereditary albuminuria there was a pulse of high tension. In cases where there was albuminuria only in the middle of the day and not in the morning, the pulse was that of low arterial tension. Albumen in such cases might be found in considerable quantities when exercise was taken. Hyaline casts were no signs of decided Bright's disease. Dr. Broadbent had shown that there was often low arterial tension in such cases, and the health was not seriously affected. The tension was never so high in similar cases as it was in true Bright's disease; and, three years ago, he had shown that the albumen present in such cases was not that of the organic disease, the presence of globuline alone indicated a less serious form of disease. But the kind of albumen present was not always diagnostic of the nature of the disease. The patients with high tension pulse should not be accepted as candidates for life insurance, whereas in the former group they might, he thought, occasionally be accepted.

DR. PYE-SMITH said that there were cases where acetic acid would cause a precipitate of mucin. The presence of globuline in urine was of less importance, and in such cases there might be no Bright's disease present. But in so far as a man passed albumen in his urine, he could not be considered to be in a healthy, but in a diseased, condition. Even when casts are found in the urine, this was not a certain indication of Bright's disease. In mitral disease, casts might be found in the urine without there being any nephritis present. While Bright's disease might occur without casts, it might also exist with them, and Dr. Mahommed had correctly said that Bright's disease might be present although there was no albumen to be found in the urine. With regard to albuminuria, its presence should be considered, as hæmoptysis, a dangerous symptom. When albumen was found in the urine we were entitled to indulge in hopes that it might not prove of fatal prognosis, but it was advisable to remain in that position and not to be risky in prognosis. In the case of a private patient, he might be encouraged to take a cheerful view; but, as officers of life insurance companies, he held that it was difficult to distinguish between accidental and permanent albuminuria. Lastly, as to the tests, it was surely very important that when persons were comparing different cases of albuminuria, they should agree to use the same test, otherwise much confusion was inevitable.

PROFESSOR GAIRDNER, of Glasgow, said that for many years past he had been studying the question of albuminuria as adviser to life insurance companies, and he was still uncertain as to the existence of anything that could correctly be styled physiological albuminuria. The word functional was not objectionable; but physiological albuminuria was not allowable. When Weston passed albumen in his urine when greatly fatigued, this could not be called a physiological symptom, any more than if, in similar cases, he had had an attack of bleeding from the nostrils. As medical officer to companies, he considered always that the occurrence of albuminuria was a danger signal. As to the practical testing of urine, he considered that the old test, heat and nitric acid, should be stuck to. He had found that among the middle classes who applied for insurance policies, the occurrence of albuminuria was far rarer than recent writings might lead one to expect. Indeed, such a symptom was decidedly uncommon in appli-

cants at his offices. If albumen were found to be present, the medical adviser should ask to have plenty of time to make up his mind; and a good plan in such cases was to ascertain who was the ordinary medical adviser of the patient, and to communicate with him and ascertain what the history of the case had been, as far as it had come under his notice.

DR. RABAGLIATE, of Bradford, said that where there was a mere trace of albumen, the prognosis might be considered to be good in albuminuria, and if the urine was of specific gravity 1.020 or upward; but where it was 1.010, it indicated an advanced state of degeneration of the kidney. The presence or absence of casts was of importance in the prognosis, and the concomitance of gout, eczema, or anorexia, were important guiding marks. The amount of oxyluria also should be considered in coming to a conclusion. Supposing that a person with albumen in his urine were admitted as candidate for life insurance, what amount of premium should he pay? Dr. Saundby's statistics showed that a very small number of persons died yearly from urinary disease; and he, Dr. Rabagliate, had taken the statistics of the Scottish Widows Fund, and found that eight per cent. of the deaths in that company were due to such diseases, and half of these were due to Bright's disease. He had also done his best to get the statistics of death from such disease at Bradford, and had found that about 3.4 per cent. of adult males died from Bright's disease in that city.

DR. DRYSDALE, of London, said he thought it useless to complicate the question of prognosis in albuminuria with business transactions. It was quite difficult enough without importing that element. The main fact now ascertained was that, whereas, when Dr. Bright wrote his work on "Albuminuria," the prognosis of all cases of albuminuria was for many years looked upon as almost, if not quite, fatal, but it was now known that hosts of cases of albuminuria got quite well, and lived for an indefinite number of years, and apparently without any deterioration of the health. If treated simply and without heroic drug medication, too, even apparently hopeless cases of albuminuria recovered. All this, however, gave but little countenance to the idea that even occasional attacks of albumen in the urine need be considered as of little importance. He could not help regarding the presence of albumen in the urine of any person as a dangerous symptom in all cases, just as attacks of hæmoptysis were always disquieting; and, for his own part, he thought that a person who had habitually or intermittently albuminuria should make his will, if he had any property to leave, and be prepared for any sudden illness, which might, of course, be avoided by careful diet and hygiene. His experience was that heat and nitric acid were the most practical tests for albumen, and he thought it a mistake to import such tests as acetic acid.

DR. CRANSTON CHARLES had found albumen in the urine of thirty-three per cent. of men examined between the ages of eighteen and twenty-four; and in the case of students going up for examination he had found traces of it in twenty-seven per cent. of the cases he had examined. Anxiety might cause the presence of albumen in the urine. In the case of a young lady, a patient of his, albumen was found in the urine; it was found that she laced herself too tightly, and when this was abandoned she lost the albuminuria. Prolonged muscular exercise caused also the presence of albumen in the urine. In some cases he had examined, so long as arterial tension continued high there was no albumen found. Peptones, serum albumen, and globuline might be present in such cases. The tests he made use of were cold nitric acid and picric acid.

DR. SAUNDBY, of Birmingham, said Dr. Drysdale had remarked that albuminuria was once considered a necessarily fatal symptom, and this was the real cause of the present discussion. The discussion on heart disease at Brighton had done great service in clearing up the prognosis of that disease, and so would this debate. There were many exceptions to the rule that albumen in the urine was to be looked on as of fatal prognosis. In some cases albuminuria was innocent, and Dr. Pavy's cases of "cyclical" albuminuria were examples of this. There were some cases which might be styled "mechanical" albuminuria. When the patients stood up there was albumen in the urine, which disappeared when they lay down or were sitting. Insurance companies might safely accept such cases; but at present it was necessary to be careful in advising them to do so. Gout, hereditary transmission, frequent recurrent micturition, were evil points in the prognosis of cases of albuminuria. If the urine deposited casts in great quantity this was of bad prognosis. A medical man examining for insurance companies had not time enough for accurate judgment. Dr. Pollock's work, recently published, was too optimistic in its prognosis of albuminuria; and, on the other hand, Professor Frank, of Edinburgh, was too timid in his recommendations. Cases presenting themselves with albuminuria to insurance companies should be asked to return in six months. Uniformity of tests should be insisted upon. He thought that Dr. Rabaglia's statistics were below the average, and it was known that there were less deaths from Bright's disease in Yorkshire than in other English counties.

DR. TYSON, of Folkestone, thought the best test for albuminuria was heat and nitric acid. There had recently been great apprehension in the public mind concerning the occurrence of albumen in the urine. There had been, indeed, quite a panic among a certain number of persons where there was no real cause for it. He, himself, had found albumen in his urine for nine months, and had got quite free from it, and from all disquieting symptoms. Deaths from Bright's disease were comparatively rare. He was not at all unwell when he had had albuminuria; and he had had several similar cases where his patients had been frightened by being told that they had albuminuria, although otherwise in excellent health. In such cases it was better for the patients to give up all attention to their urine. As to the prognosis in albuminuria, he admitted that it was to the older members of the profession that we must apply for information on such subject, for cases must be watched for many years before the correct import of albuminuria could be judged of.

DR. KAVANAGH remarked that teachers at medical schools might perhaps examine the urine of all their students, and see what became of those who had albuminuria in the course of twenty or thirty years; medical men could be very easily traced in after-life, and thus a prognosis might be arrived at. A remarkable case of recovery from albuminuria existed in the person of a distinguished lawyer in Scotland, aged eighty, who, when a youth, had been seen by Dr. Bright and given to understand that he had a fatal disease, and was not likely to live many months. And yet he got quite well, had a laborious career, and rose to great eminence in his profession.

DR. BARR, of Liverpool, said he had long thought that in cases of albuminuria the amount of albumen passed was far too much attended to. He was accustomed to pay greater attention to the quantity of urea passed; and instead of paying attention to the kidneys in such cases, we should direct our attention to the heart and the condition of arterial tension existing. In granular kidney very little albumen was passed; but in such cases it would be found that the patient was passing as much as 400 grains of urea daily. He had always contended that in albuminuria the heart was most often in fault.

DR. HAY, of London, said that, with regard to Weston's case of transient albuminuria, the tracings showed that while he was passing albumen he was exhibiting symptoms of high arterial tension.

DR. HERRINGHAM pointed out the frequent relationship of hæmato-globinuria with albuminuria, and cited the case of an elderly gentleman who had exhibited hæmato-globinuria when coming back from a mountain ascent.

DR. GEORGE HARLEY, of London, said that the result

of the two and a half hours' discussion which had taken place was most valuable, and the British Medical Association was useful as a place for mutual instruction, and not for merely mutual admiration. He made it a rule, in the examination of patients, to pay greatest attention to the question of the specific gravity of the urine. It was not the quantity of albumen in the urine that killed; it was the retention in the blood of excrementitious substances which proved fatal in Bright's disease. The moment we had diseased kidneys we may get uræmia, uric acid, and other poisons, all of which tended toward a fatal result. Albuminuria with a urine of 1.015 was curable. Albuminuria of pregnancy and caused by great exertions, was a good prognosis. In such cases there was simply congestion of the kidney. He considered that the terms functional and physiological albuminuria were misleading, just as neuralgia was misleading, and of no therapeutic importance. The kidney had no function in eliminating albumen. It was merely a filter. The specific gravity of the urine was the important matter. The presence of albumen, whether temporary or permanent, was not, *per se*, dangerous.

THE PRESIDENT read some conclusions which Dr. Johnson, of London, had forwarded to him. These were, that the presence of albumen in the urine is always pathological; the practice of testing the urine in all cases had led to the discovery of many cases of albuminuria that would otherwise have remained undiscovered. To talk of albuminuria as physiological was dangerous; and almost all such cases might be traced back to a pre-existing causation in scarlet fever, cold, etc. On the one hand, intermittent albuminuria was curable. In doubtful cases the urine should be tested several times in the day, in order to arrive at a conclusion as to the presence or absence of albumen.

DR. EDDISON, of Leeds, was much gratified in hearing the remark of Dr. George Harley, that it was not the passing of albumen that was dangerous. It was to be regretted that the discussion on the prognosis of albuminuria had been mixed up with business transactions. A clever chemist might find out some albumen in the urine, when a physician would not find it, or care to find it. Time was requisite to make up the mind in doubtful cases of albuminuria, and the patient should be asked to return on some future occasion. He would be glad to know more about the production of albuminuria in cases of anxiety, as for instance, in positions like those he himself was occupying at that moment.

DR. PAVY, of London, in reply, said that he fully recognized that Weston's albuminuria was a pathological symptom. In great exertion there was doubtless incipient disease of the kidneys. These cases were not comparable with cases of cyclic albuminuria. The organic acids precipitated one form of albumen. The term physiological albuminuria was not tenable. It would be as sensible to talk of physiological dyspepsia; but the word functional might be allowed. Something in the body was functionally out of order. This need not be in the kidneys alone; it might be in the heart. It was not the loss of albumen that was dangerous in albuminuria, but the retention of the uric acid and excrementitious products.

DR. HAIG, of London, read a paper on

ALBUMINURIA.

He said that Professor Semmola had shown that the subcutaneous injection of albumen in animals produced not only serum albumen, but other albumens in the urine. Albuminuria might exist without any disease of the kidneys; and nephritis might be produced by the mechanical passage of albumen through the kidneys. Deficiency of activity of the skin was a frequent cause of albuminuria; and many skin diseases when cured might cause albuminuria. The functions of the skin were greatly interfered with in scarlatina, and hence the frequency of albuminuria in that fever. So too in cold bathing. It was probably, in such cases, the condition of the skin which caused albuminuria, and not that of the heart. Semmola's views were definite. Cold, damp valleys tended to cause Bright's disease, and dry climates often effected a cure of albuminuria. Deficient skin function was of utmost importance in the pathology of the disease. In some patients, when they were lying in bed, almost any kind of treatment would suffice to ameliorate cases of albuminuria; when these patients were up and taking exercise, they were often enabled to do their work with comfort under a milk diet, when any other diet would cause great discomfort and increase the excretion of albumen. The failure of the heart's action did not account for those cases where there was more albumen after meals. In these circumstances there was more albumen in the blood, and this caused the escape of it by the kidneys. It had been found that hæmoglobinuria had been produced by freezing the fingers. Dyspepsia was often produced by what had been styled an "uric acid storm." Such were Semmola's views, which he, Dr. Haig, was anxious to make known as widely as possible, as they seemed to him to contain much truth.

DR. SAUNDBY, of Birmingham, bore testimony to the great interest of Dr. Haig's former papers on uric acid, and said that there were many points in this communication with which he was in accordance.

DR. DRYSDALE, of London, said that he had on several occasions met the learned professor Semmola at the meetings of International Medical Associations, and was convinced that the views put forward by that author on the causation of albuminuria contained many most important truths. The hints given by Dr. Haig with regard to treatment, which were derived from Semmola's views as to the causation and pathology of albuminuria, such as the importance of sending patients with Bright's disease to warm and dry climates, and feeding them on an easily digestible or milk diet, were most valuable and were beginning to be appreciated. The main point, indeed, in the treatment of Bright's disease was warmth, comfort, and suitable diet. Purgatives and diuretics generally had proved very injurious in his experience of acute and chronic Bright's disease.

DR. P. MAGUIRE read a paper on

PRESYSTOLIC MURMUR WITHOUT MITRAL DISEASE.

The author brought forward two specimens to prove that presystolic murmur may by caused by other circumstances besides diseases of the mitral valve. In Case I. the patient exhibited cardiac impulse in the sixth interspace, and two murmurs were heard, a presystolic and a diastolic murmur, with a few râles at basis of the lungs. There was no pain. On October 14, 1888, the patient had an appearance of cyanosis, and on listening the murmurs were heard as usual by himself and Dr. Cheadle. The condition of the lungs was impaired. The patient left hospital, but returned with an attack of anginal character from which he died. The heart was found to be greatly enlarged. The aortic valves were diseased, but there was no narrowing of the mitral orifice. Great œdema of the lungs existed. In the second case, a patient entered St. Mary's Hospital in 1877, with diffused pulsation of the heart and other evident symptoms of cardiac dilatation. There was a diastolic murmur and also a presystolic murmur present. The patient died and the heart was found to be very greatly enlarged, weighing twenty-five and a half ounces. The left orifices were greatly dilated and the tricuspid valve diseased. An aneurism of the coronary artery bulged into the cavity of the auricle and caused the narrowing of the orifice, which had given rise to the presystolic murmur.

Dr. Eddison, of Leeds, Dr. Acland, of London, Dr. Saundby, of Birmingham, Dr. Drysdale, of London, and Dr. Maguire, discussed this paper, and doubt appeared to exist in the mind of some of the speakers, whether the presystolic murmur in these cases was not connected with the insufficiency existing in the aortic valves in both cases.

Dr. Bourne Harley, of London, read an abstract of a paper on

THE TREATMENT OF ABSCESS OF THE LIVER.

The author observed that men were much more liable to have abscess of the liver than women. When there was an abscess in the liver it was apt to cause pyæmia, if not treated by evacuation of the abscess, and hence as soon as an abscess was known to exist it should be surgically treated. A long trocar should be passed into the liver from the right side, up to its hilt, until the end of it entered the cavity of the abscess, which could then be emptied through the cannula. As much as would come away should be evacuated, and the cavity of the abscess thoroughly emptied of pus. The trocar should always be passed at the right side, and not from before backward. Dr. Harley narrated cases in which a complete cure of hectic and other alarming symptoms caused by abscess of the liver had been effected by such surgical treatment. The antiseptic used by himself in dressing the wounds of the skin was a solution of boracic acid, ten grains to the ounce of distilled water.

Dr. Eddison, of Leeds, asked whether there was not some risk of escape of blood into the peritoneum in such cases, where a vessel might be pierced by the trocar.

Dr. George Harley said that it was the rarest event, in the treatment of abscess of the liver by evacuation with the trocar and cannula, to find any blood escaping from the wound. Greatest care should be taken to pass the trocar in from the right side, and not from the front of the abdomen, as the latter method might prove fatal. When such abscesses remained untreated the occurrence of blood-poisoning was by no means uncommon.

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SECTION IN OBSTETRICS AND GYNECOLOGY.

Thursday, August 15th—Second Day.

Dr. Herman began the proceedings of this day by reading a paper on corporeal endometritis, in which he said that some persons almost refused to admit the existence of the affection. In many cases, he said, we had nothing but inferences to guide us, but when these inferences pointed in one particular direction, we were bound to act on them. If the products of inflammation come to us from the body of the uterus, we may infer the existence of corporeal endometritis; but the pus which exudes through the cervix may come from the tubes, and not from the body of the uterus.

He recognized two forms of corporeal endometritis, viz., the hypoplastic and the polypoid. In both the uterus is enlarged and expanded. The diseased surface should be scraped with a curette, or caustics might be employed. In the polypoid form, the blunt curette is the one that should be used. The polypoid growths are most usually found in married women. The hypoplastic is met with at all ages. The relation of corporeal endometritis to cancer is very uncertain, and of the affection as arising from gonorrhœa very little is known. Endometritis is undoubtedly the result of specific fevers, as post-mortem research has demonstrated its existence.

Acute endometritis is sometimes accompanied by severe pain and fever, but when these are present in a marked degree a more grave affection than endometritis may be suspected.

In the treatment the chief indications were to look for and remove the cause, when the disease would disappear, whereas, if left to itself, it would spread to the tubes. Dr. Herman drew attention to the different temperaments of patients, and said we must discriminate the symptoms of the disease from what he called the symptoms of the patients. He does not look upon this affection as due to obstruction of the cervical canal, though local treatment often alters the conditions which have induced the disease. Active intra-uterine treatment, he thinks, is not advisable in slight cases.

Dr. J. W. Byers opened the discussion on Dr. Herman's paper by alluding to the treatment of endometritis, which was chiefly by the use of caustics, or the curette. The object of both is the same, viz., to remove diseased growth, but caustics do not do this so quickly as the curette. Of the two forms of curette (sharp and blunt) Dr. Byers preferred the sharp instrument, as it removes what the blunt will often merely pass over. The curette must be used with antiseptic precautions. He had generally found corporeal endometritis most troublesome in nulliparous women, and in their case he had often been inclined to attribute the disease to gonorrhœal infection. Hemorrhage was not always a symptom of endometritis, and the diagnosis between this disease and cancer was one of great difficulty. Dr. Byers thought that Dr. Herman "fought shy" of intra-uterine medication, which is most useful and important.

Dr. Routh thought that by means of Simpson's instrument for applying caustic to the interior of the uterus, we can obtain some of the secretion at its fundus, and determine the nature of this secretion, which will materially assist us in forming a diagnosis in cases of endometritis. In the treatment of this affection, Dr. Routh insisted on the necessity of fully dilating the cervical canal in the first place, and then in the use of powerful intra-uterine injections, being careful to see that they had free exit and came away. From our knowledge of uterine innervation and the sources from which the various uterine zones derive their nerve-supply, he thought that we could diagnose to a great extent the exact locality of intra-uterine inflammation. As regards the spread of gonorrhœal inflammation to the tubes, he thought that any case of intense vaginitis will affect the tubes independently of gonorrhœa. Some say that when urethritis exists it is due to gonorrhœa. Dr. Routh was not sure of this point, but he was satisfied that in every case of urethritis there is affection of the tubes. In the case of children who have suffered from a vaginal discharge, corporeal endometritis does not follow as a necessary consequence in after-life.

Dr. Graily Hewitt said that to understand fundal endometritis we must go back to first principles and take into consideration the fact that the alterations which occur are dominated by the circulation. In other words, that congestion precedes endometritis. The hypertrophy due to menstruation is also of consequence in reference to this consideration. Besides this, one cause of congestion of the uterus is often found to be displacement of the organ. Then the weakening of the circulation and local circumstances augment this. As regards hypersecretion, it must be remembered that the tubes themselves secrete, and the question arises whence does the discharge come, from the uterus or from the tubes?

As regards the polypoidal variety, he mentioned the case of an unmarried lady supposed to be suffering from malignant disease of the interior of the uterus. The os was large and a soft mass could be felt by the finger, and it was determined to remove the mucous membrane; but after the preliminary rest in bed before the operation, it was found that when the patient was placed on the table there was nothing to remove, as the hypertrophy of the mucous lining was gone, although the uterus was enlarged and acutely anteflexed. The speaker also insisted on the necessity of enlarging the cervical canal before adopting intra-uterine medication.

Mr. Pridgin Teale said that, owing chiefly to the labors of the Dublin gynecologists, we are now able to deal with the interior of the uterus in a way we could not venture on before. In dealing with the interior of the organ we must begin by dilating the cervix, and as in dilatation of urethral stricture, so in dealing with the os uteri, moderately rapid dilatation was advisable. We need not now use tents for this purpose, their action is too slow. In dealing with unmarried women, they should be examined under ether, in the lithotomy position, the os should be dilated as directed above, when the curette may be employed or medicaments applied to the interior of the

uterus. Success depends in a great measure on drawing down and studying the os, and for this purpose Mr. Teale exhibited a pair of forceps which he had found most useful.

Dr. R. Bell, of Glasgow, thought corporeal endometritis was a common disease, and that there was but little difficulty in its diagnosis. One pathognomonic symptom was the great effect it produces on the nervous system. When pus is discharged from the tubes, he thought it had previously travelled to them by continuity of tissue from the uterus. Corporeal endometritis was not, he thought, spontaneously curable and, if not interfered with, the interior of the uterus would go on generating pus *ad infinitum*. Dr. Bell alluded to some points of apparent similarity in cases of corporeal endometritis and of cancer.

Dr. More Madden in his remarks dwelt chiefly on the treatment of this affection, and said that the present means of rapid dilatation had done more than anything else in helping us to treat these cases. Endometritis is not limited, he thought, to any particular zone of the uterus. He exhibited ergot largely, scraped the interior of the uterus with a sharp curette, and washed it out with warm water.

Dr. Braithwaite thought that dilatation need not be carried so far in endometritis as in dysmenorrhœa. Curetting was useful in chronic cases, but it must be remembered that it caused the uterus to bleed, which would interfere with the application of medicaments.

Dr. Handfield Jones deprecated excessive dilatation of the cervical canal, and thought the dull curette a preferable instrument to the sharp one for dealing with the interior of the uterus.

Dr. A. Duke preferred the sharp curette, and laid stress on keeping the cervical canal patulous.

Dr. Walker thought uterine flexions played an important part in these cases. The nervous condition present was also important, and must not be overlooked. It showed the necessity for general treatment. Discharges from the vagina in children generally occurred among the poor, and were due to a want of cleanliness, and also, perhaps, to the child sitting on a cold stone.

Dr. Murdock Cameron thought that over-rapid dilatation of the cervical canal was not unattended with danger, owing to the risk of its causing cellulitis. He preferred the use of the dull curette, and advocated the employment, for the same purpose as a curette, of a metal brush similar to that used for cleaning the interior of a rifle-barrel. Carbolic acid and spirits of wine in equal parts, he considered a useful intra-uterine medicament in these cases.

Dr. Horrocks thought the diagnosis of corporeal endometritis was difficult, owing to the insufficiency of our knowledge of the process of inflammation. He alluded to the frequent occurrence of endometritis in women of intemperate habits.

Dr. Handfield Jones then read a paper on

CARDIAC INSUFFICIENCY IN ITS RELATION TO ABORTION.

He said no great advance had been made of late in deciding the question of the influence of the condition of the heart on pregnancy. Stenosis of the mitral valve is said to give rise to abortion, but he thought valvular disease did not interfere materially with pregnancy. There is a normal hypertrophy of the heart in pregnancy, chiefly affecting the left ventricle. If this ventricle is vigorous, the blood-stream reaches and nourishes the enlarging uterus. He said heart distress commenced generally about the third month, and was very often due to the absence of the compensating hypertrophy he had just spoken of. A feeble left ventricle gave rise to stagnation of blood in the capillaries, which bulge and break, causing extravasations of blood, which separate the ovum from the uterus.

Dr. Murdock Cameron exhibited drawings and read some most interesting notes on two cases in which he recently performed

CÆSAREAN SECTION

successfully in Glasgow.

Dr. Arthur Roberts read a paper on

CONCEALED ANTE-PARTUM HEMORRHAGE.

He mentioned some cases in his practice where pain, faintness, and sickness were the chief evidences of the occurrence of this complication. The pain and sickness, he suggested, might be due to the stretching or tearing of the peritoneum. The prognosis in these cases is very serious, and the treatment recommended is rupturing the membranes, and then waiting for nature to complete delivery.

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Friday, August 16th—Third Day.

In the absence of Dr. W. S. Playfair, a written paper by him was read by Mr. Wheelhouse, entitled

AN ESTIMATE OF THE VALUE OF ELECTRICITY IN GYNECOLOGY.

Dr. Playfair thinks hysterectomy is not a legitimate operation until electricity has been tried and has failed. The spontaneous absorption of fibroid tumors was also alluded to as having saved patients from hysterectomy. He also drew attention to the hæmostatic effects of electrolysis, which is a strictly conservative operation. Membranous dysmenorrhœa is also much benefited by electricity, and the negative current is most beneficial in cases of inflammatory exudation which are of long standing and perfectly chronic.

Dr. Ephraim Cutter, of New York, gave some details of eighteen years' work in the United States, in the treatment of uterine fibroids by galvanism, and described the method of operating; and he also gave some statistics of the treatment of uterine fibroids by food for the same length of time.

Mr. Lawson Tait criticised very freely Dr. Playfair's paper. He said that in two hundred and sixty-two cases in which he had removed the uterine appendages, the mortality was only 1.23 per cent. He thought Dr. Playfair's statements too vague, and that there was no value to be attached to any such statements unless the actual number of cases which had been dealt with by electrolysis and the results were given. This line of treatment should first be tried in more superficial tumors, and its results noted in such cases. He dealt in what he called the intrinsic and extrinsic causes of mortality; the former, which were faults that it was in the power of the operator to avoid, must be eliminated, and only the extrinsic taken into consideration, and he thought that it will be proved that the mortality in cases of hysterectomy would not contrast unfavorably with that in cases treated by electrolysis. As regards one objection to the performance of hysterectomy, viz., that it unsexed the patient, he said that it must be borne in mind that the cases for which the operation was performed also interfered with the prospects of maternity.

Dr. Parsons said that as much accuracy should be observed in laying down treatment by electricity as is used in defining treatment by the exhibition of quinine or opium or mercury. He said we wanted assurance that the so-called cases by electrolysis were complete.

Dr. Imlach said that this was now the third occasion on which treatment of fibroids by electricity had been brought before the Association, without any reliable information as to its beneficial results having been laid before the meeting.

Dr. Horrocks said that the electrical treatment of fibroids was still *sub judice*, and as regards Mr. Lawson Tait's two hundred and sixty-two cases of hysterectomy with a mortality of only 1.23 per cent., he would wish to ask how many of the two hundred and sixty-two were now alive. Fibroids, he said, are not necessarily fatal, and if the two

hundred and sixty-two had not been operated on they might probably be all alive now. The constant current he looked on in the light of a caustic, its energy dependent on the number of cells used.

DR. BYERS said that if a Hindu surgeon had been listening to the discussion to-day, he would be puzzled how to act. It must be remembered that different cases required different modes of treatment.

DR. MURDOCK CAMERON complained that sufficient details had not been given, more particularly with regard to the depth of the punctures in the treatment of fibroids by galvanism.

DR. BELL thought that Mr. Tait's comments on Dr. Playfair's cases, which he (Mr. Tait) had not seen, were somewhat unfair, and Dr. Bell welcomes the discussion of any procedure, such as electrolysis, likely to do away with more severe surgical treatment.

DR. GRAILY HEWITT said that we needed more facts before coming to a conclusion. His experience of the electrical treatment of fibroids had not been fortunate.

DR. BRAITHWAITE used electricity in fibroid cases. He thinks it produces absorption of the tumors, but it is not applicable to every case, and there are difficulties in the way of its use in hospital practice, particularly with out-patients.

Drs. Routh and Madden continued the discussion on Dr. Playfair's paper and Mr. Lawson Tait's criticisms of it, and the President wound it up by saying, in reply to Mr. Tait's suggestion of our first dealing with superficial tumors, that he had tried electricity in the case of a very large bronchocele. After five applications it began to diminish considerably, and all difficulty of breathing, which had been very urgent, disappeared. More facts and statistics, he thinks, are needed to enable us to decide on the relative merits of the different modes of treatment of uterine fibroids.

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## SECTION IN SURGERY.

### THURSDAY, AUGUST 15TH—SECOND DAY.

MR. HENRY MORRIS read a paper on

### SURGERY OF THE KIDNEYS.

The various ways in which calculi are embedded in the kidney, he said, required special precautions while operating. Tubercle of the kidney might give rise to the same tactile impressions as small calculi. Tubercular disease of the prostate gland was a source of fallacy in diagnosing renal calculi. Nephrectomy was of very doubtful value in advanced tubercular disease of the kidney. Lumbar nephrectomy was the proper treatment for advanced hydronephrosis and for large collections of fluid behind the peritoneum, the result of lacerated kidney. In these cases, nephrectomy, without previous incision and drainage, should be more frequently resorted to than has been the practice hitherto. Nephrorrhaphy for movable kidney was often of great service. Finally, Mr. Morris said, the changes which the perinephritic tissues undergo under long-continued irritation sometimes rendered the search for the kidney very tedious and difficult.

MR. BENNETT MAY said he had operated for

### STONE IN THE KIDNEY

on fifteen patients—twelve males and three females. He thought we might group cases according to the way in which the stone was placed in the kidney. In at least half the cases it was embedded in the cortex, away from the pelvis, and was mostly of slow growth. Such calculi were usually limestones, and occurred in young men. Nearly all the patients had been bedridden for years before being operated on. A diagnostic sign was pain on deep pressure under the last rib, accompanied by crystals of oxalate of lime and uric acid in the urine. Traces of blood were passed in micturition, more after exercise. The urine contained no pus. These cases gave the best results, because the patient was cured by operation. In several there was a narrow escape of the patient leaving the table with the stone undetected. There was no hope of finding the stone by palpation. He had used an acupuncture needle, passed in from the outer border of the kidney, and particularly passing it from below upward. A search should always be made for a second stone, which existed in three of his cases. The other group of cases comprised those in which the stone was in the pelvis of the kidney. Pus in the urine was an early symptom, but pain might be absent. The stone might be very small indeed, and give rise to symptoms of obstruction of the ureter. He disapproved of nephrectomy in tuberculosis of the kidney.

DR. NEWMAN, of Glasgow, said few cases of movable kidney required operation. He usually treated them by applying an elastic abdominal bandage, fitting accurately, so that the pressure was equal over the entire abdomen. In many cases the kidney became fixed and the adipose tissue around it increased. In calculus we should operate early, before suppuration had occurred; the operation was then safe. The aim of the surgeon should be to bring out the points necessary to make a successful diagnosis. Catheterism of the ureter was useful, and facility might be gained by practising on the dead body, in which it was more difficult than in the living patient. It was also useful as an aid to diagnosis to estimate the quantity of blood pigment in the urine. In a case of renal calculus where a patient refused operation, we should treat the case by perfect rest, in the hope that the calculus, if in the pelvis, might become encysted.

MR. LAWSON TAIT, of Birmingham, said he had operated on seventy-five cases of kidney disease, with six deaths. Four of his operations were exploratory incisions; there were four nephrotomies (with one death), twenty-one nephrectomies (with three deaths), and four nephrorrhaphies. In discussing the question of mortality we must not mix up primary and secondary operations. The mortality of ovariotomy had virtually disappeared since early operation had become the rule; similarly, many a kidney might be saved if early nephrotomy were performed instead of a late nephrectomy.

### HE REGRETTED HIS OPERATIONS OF NEPHRORRHAPHY.

None of the patients had been benefited, and one had since died under circumstances which might fairly be attributed to the operation. He would himself have nothing further to do with the operation of nephrorrhaphy. In operating on the kidney he believed it was of no consequence whatever whether the peritoneum was opened or not. Referring to the uncertainty of diagnosis, he observed that the proportion of mistakes in diagnosis was about the same as in other abdominal cases—about ten per cent. Tubercle of the kidney might possibly give rise to the same tactile impressions as calculus, but as to this he had no experience. Nephrectomy was of very doubtful value in advanced tubercular disease. His treatment for hydronephrosis was to open and drain it, and he would remove no kidney till it had had a chance for repair. As to lumbar nephrectomy being the proper treatment for advanced hydronephrosis, his own opinion was the exact opposite. He also did not agree with Mr. Morris that the changes which the perinephric tissues underwent under long-continued irritation, sometimes rendered the search for the kidney tedious, difficult, or even ineffectual; that was not yet his experience.

MR. BRUCE CLARK said he had operated on seven cases—on one twice over. In this case the kidney had a complete mesentery. He found no stone, but sutured the kidney to the body-wall. Pain was relieved for a time, but returned. He operated again and incised the kidney. Failing to find any stone he removed the kidney, and on examining it after removal it was only after the most careful and prolonged search that he found a small calculus the size of the end of a pencil. One of his cases died. Vomiting followed the operation and suppression of urine (affecting both kidneys); at the post-mortem

suppuration was found in the peritoneum near the kidney. He did not think nephrorrhaphy so useless an operation as did Mr. Lawson Tait. He had had four cases, and believed that in cases of movable kidney pain would generally be relieved by passing sutures three-fourths of an inch through the substance of the kidney and fixing the kidney to the body-wall. In performing nephrectomy he thought it a good plan, if removing the kidney from the loin, to stitch the edge of the capsule to the skin. By so doing, the wound was shut off from communication with the ureter. It was, however, sometimes not possible to stitch the capsule to the edges of the wound.

MR. KENDAL FRANKS, of Dublin, remarked that a certain amount of benefit did sometimes follow exposure of the kidney, but it was generally only temporary.

REMOVAL OF THE KIDNEY

was a severe procedure; it was far better to incise it, which was not a formidable proceeding. It was better to search for the calculus in the kidney while the kidney was still a part of the patient's body, than when it was on the dissecting-table. With one modification (viz., making pressure on the kidney when the patient was on his face), he agreed with Dr. Newman that pain on pressure was a valuable sign of calculus. Alternating pain, varying with posture, was a sign of value. The wound in the loin should be left freely open. In one case he plugged it with gauze; vomiting followed the operation and was persistent, in spite of trying all the remedies he could think of, until the plug was removed, when it ceased. In many kidneys, small blood-clots formed which might form the nuclei of future stones, unless they were washed out by the flow of urine. He regarded excision of the kidney in early scrofulous disease of the organ as a surgical procedure which should be adopted.

MR. LAWFORD KNAGGS, of Huddersfield, observed that the passage of bloody urine after operation might suggest congestion of the opposite kidney, but some of it might come from the kidney which had been removed.

DR. IMLACH, of Liverpool, said he had removed the kidney in hydronephrosis. In pyonephrosis the kidney would not grow beyond a certain size, the pus being limited by thickened and inflamed tissue.

THE PRESIDENT then called upon Mr. Morris to reply, and asked him which method he adopted in performing nephrectomy?

MR. HENRY MORRIS then replied. In response to Mr. Jessop's query, he said he adopted different methods of nephrectomy in different cases. He was not in favor of nephrectomy for malignant disease, but in dealing with large malignant masses the anterior incision was the best. He preferred Langenbeck's incision at the outer edge of the rectus. For calculus and tubercular disease he preferred the lumbar operation. He disagreed with Mr. Bennett May about palpation being useless, and said that in some cases the stone could easily be felt; he agreed with him as to the method of puncturing—in lines radiating from the convex border of the kidney. In all his cases he had tried rest, pads, etc., before operating, but he had not tried the ring pad. He did not agree with Mr. Lawson Tait that nephrorrhaphy was a useless operation. He would freely incise before excising the kidney; he did not do so in his first case, but recommended it immediately afterward from his experience in that case. In hydronephrosis the kidney substance was almost or entirely destroyed. He therefore advised removal of the kidney in such cases and disagreed with Mr. Tait; of course he would not remove the kidney without clear evidence of the other kidney being present. When we knew a sinus would continue discharging, it was better to remove the kidney; the fluid discharged was of low specific gravity and was not urine. He referred to the case of a patient whom he tapped for hydronephrosis and let out two wash-hand basins full of fluid and blood; now (five years afterward) there was a sinus remaining through which about twelve ounces of fluid were discharged daily. The patient was in good health and was not willing to submit to another operation, but no doubt he would have been thankful if his kidney had been removed at the former operation, and his present inconvenience thereby avoided. Mr. Bruce Clarke's method of stitching the capsule to the wound was good, but in cases where there had been inflammatory troubles it was difficult to shell out the kidney without breaking through the fibrous capsule. Such a procedure, also, was not practicable in hydronephrosis, where we had little to deal with but a fibrous capsule which collapsed immediately it was punctured.

MR. FREDERICK TREVES then opened a discussion on

THE SURGICAL TREATMENT OF TYPHLITIS.

Typhlitis, he said, was a localized form of peritonitis. If it resulted in suppuration the pus might be encysted. It differed from other localized forms of peritonitis in its site and mode of causation. Numerous terms were at one time used to describe various forms of the affection. There was no reason to suppose that primary inflammation ever occurred, apart from catarrh or ulceration of the mucous membrane. The symptoms produced by catarrh of the cæcum were not those of typhlitis, but those of colitis. Ulcer of the cæcum would not produce symptoms of typhlitis until it had extended to the outer wall of the cæcum. Perforation of the cæcum was rare as a primary condition; Fitz had recorded three cases. Abscesses from cæcal trouble were primarily intra-peritoneal; the cæcum and appendix were entirely surrounded by peritoneum. The milder varieties of typhlitis were usually caused by peritonitis over the cæcum; the graver forms by disease of the appendix. He had found that twenty-five fatal cases had occurred in the London Hospital during a period of several years. In one case a patient had had fourteen attacks of typhlitis, and on exploration a diseased appendix was found, but no pus. Fæcal concretions were present in the appendix in about half the cases. Perforation was common, and was sometimes found without any foreign body being discovered. Typhlitis might occur in very varying degrees. Firstly, there was the mild common form, which usually ended in resolution. This generally depended on fæcal lodgement in the cæcum and a stercoral ulcer formed. This form was more common in males; thirty-six per cent. of the patients were under twenty, and only twenty-one per cent. over forty. The patients were usually constipated and the pain appeared suddenly. There was seldom any rigor. The tumor formed early and was large and doughy. Bladder troubles were usually absent. The second variety was severer and led to suppuration. More than half the cases were over twenty-one years of age. There was often a history of cold or injury. The pain was radiating, and associated with tenesmus and troubles in micturition. The third form was the familiar form of

RELAPSING TYPHLITIS.

The affection sometimes became more severe after each attack; it never led to suppuration. Cases of the first mild form did very well under the recognized medical treatment, viz., rest, opium, little fluid to drink, leeches, fomentations, and the evacuation of the colon by means of enemata. When suppuration occurred, or was expected, surgical measures were called for. It was seldom necessary to make an incision before the fifth day, and it was not advisable to do so unless there were urgent symptoms. In most cases an incision should be made only after the first week. The abscess should be opened after it became encysted, so as to avoid opening the general peritoneal cavity; this could hardly be done if it were incised in thirty-six hours, as advised by some. He did not approve of the exploring needle for such cases. Deep-seated pus, sufficient in amount to cause serious symptoms, could be diagnosed by other means, and careful incision was preferable. The use of the needle was not free from danger, though it was perhaps unfair to suggest that suppuration was caused by it. But bloody pus had been

found in cases where the needle had been used repeatedly, and in some cases where no pus had been found by the needle it had subsequently been found by incision.

PERHAPS THE NEEDLE WAS SAFE

in the hands of Dr. Bull, of New York, but if its use became general we should have the opportunity of ascertaining the effect of passing a needle, first through diseased and suppurating tissues, and then into the iliac artery or other organs. The site for incision was in the iliac region, outside the deep epigastric artery—just above and outside Poupart's ligament. Some had recommended scraping the abscess cavity with a spoon, also that foreign bodies should be searched for. It had also been advised that the diseased portion of intestine should be excised and the ends united by a plastic operation. He considered that

SCRAPING WAS CRIMINAL.

Incision should be free and foreign bodies should be searched for, but the less done to the appendix at the time of operation the better. The state of the tissues was not such as to favor a plastic operation, and he objected to excising portions of the cæcum; the fistula in the cæcum would do well in most cases if left alone, with rest and a careful selection of food. The proper

TREATMENT FOR RELAPSING TYPHLITIS

was to remove the appendix. He had first urged this in 1887, and thought no surgical procedure gave such good results. We should operate between the attacks, when the patient was well, and remove the diseased appendix. The patient would recover from a simple abdominal operation and have no recurrence of the typhlitis. The condition of the appendix varied. One patient had had fourteen attacks, and had been in bed twelve months when the operation was done. The peritoneal cavity must be opened. The appendix must be lightly clamped and cut off. A double row of sutures should be placed in the stump, which should be attached to any neighboring piece of peritoneum. During the operation the general peritoneal cavity should be separated off from the site of operation by sponges interposed. In some cases the appendix could not be removed, in others there was danger that the ureter might be removed under the impression that it was the appendix.

MR. BENNETT MAY commented unfavorably on the advice given by certain American surgeons, to operate within a week unless recovery had taken place. We should endeavor, he said, to distinguish between perforative and non-perforative cases. It was not easy to diagnose perforative cases. The simpler the operation the better; a drainage-tube should be employed. He had found considerable trouble from hemorrhage.

DR. EASTES related a case in which prompt relief was afforded by opening posteriorly an abscess in the iliac region; a glass drainage-tube was inserted.

Mr. Lawford Knaggs, Dr. Beale, and the President having spoken, Mr. Treves then replied. Commenting on a case narrated by Dr. Beale, he said he thought that case should have been operated on. There was no other known diseased organ in connection with typhlitis but the appendix. The latter was an obsolete organ, and the risk of removing it was not to be compared with that of relapsing typhlitis.

MR. MAYO ROBSON then read a paper in which he gave an account of one hundred and eighty-eight consecutive cases of

ABDOMINAL SECTION.

The peritoneum had been opened, he said, in every operation included in his list, from which he had excluded all cases in which it had not been opened. He agreed with Mr. Tait as to the difficulty of diagnosis, and the proportion of cases (ten per cent.) in which mistakes were made. He thought the motto of the surgeon should be, "When in doubt, operate." His list included 61 cases of ovariotomy, with only 2 deaths, and 56 consecutive recoveries. These were all operated on in a general hospital, with the aid of antiseptics. The cases were not selected. He would always operate on any case in which there was a chance of doing any good. The largest amount of fluid removed from any single cyst was ten and a half gallons. The heart was pushed up and was beating in the second space. The patient made a good recovery. There were 14 cases of abdominal section for fibroids, with 3 deaths, and 2 cases of suprapubic hysterectomy (1 death). Seven operations were exploratory, of which three terminated fatally. There were six operations (all successful) for pelvic abscess. The abdomen was opened five—or, including one of the exploratory operations in which this condition was found, six—times for tubercular peritonitis; all the patients recovered. Abdominal nephrectomy was performed in one case; a large cyst was found, and the patient died from acute mania in the third week. There were 2 cases (both successful) of hepatotomy for hydatids; 11 of cholecystotomy, of which number all recovered but 1, in which there was cancer of the pancreas. There was one (successful) case of cholecystenterostomy (patient shown on previous day). He had operated fourteen times for intestinal obstruction, with four deaths. He believed most of the deaths following operation in such cases were due to shock, and he would never again spend a long time in searching for the cause of obstruction, but, if it were not soon evident, bring up a distended coil of intestine, attach it to the edges of the wound, and open it twelve or fourteen hours later. There were 59 cases of hernia, of these 30 were cases in which herniotomy was performed for strangulated hernia, and there were 24 recoveries, with 6 deaths; 29 were cases in which the operation for radical cure of hernia was performed, with only 1 death. There were two cases of gastrostomy, with one death, and three cases of abdominal section for perforating peritonitis, all of which ended fatally.

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FRIDAY, AUGUST 16TH—THIRD DAY.

MR. A. F. MCGILL, of Leeds, opened a discussion on

THE TREATMENT OF RETENTION OF URINE FROM PROSTATIC ENLARGEMENT.

Mr. McGill remarked that in many of these cases self-catheterization was the only treatment needed; when this failed, or was unavailable, further treatment was necessary. Suprapubic prostatectomy was preferable to a urethral or perineal operation. The urethral operation was unsatisfactory; it was founded on faulty anatomy, for in only 4 out of 24 cases he had tabulated was there anything resembling a bar at the neck of the bladder. The suprapubic operation was also more generally applicable; in only 3 of the 24 cases in his table could the perineal operation have been done. He considered the suprapubic operation compared favorably with others as regarded safety, but it was not possible to show this from statistics; many of his cases were in old men. In performing the operation he thought the quantity of water injected into the rectal bag should be smaller than that generally recommended; from six to ten ounces was usually sufficient. A catheter should be passed, and left in until the finger entered the bladder. The bladder should be irrigated with an antiseptic solution until the latter came away clear. The prostate should, as far as possible, be removed by enucleation with the fingers (a manœuvre first practised by his colleague, Mr. Atkinson), and not by cutting, though the middle lobe might be cut through at its base after the mucous membrane had been snipped through. Bleeding might be checked by irrigating the bladder with water so hot as to be unpleasantly warm to the hand. Mr. McGill presented a table showing the previous history, condition at time of operation, date and nature of operation, subsequent history, and final result of 24 cases, operatively treated by himself, or one of his colleagues, at the Leeds Infirmary, from March 24, 1887, to July 11, 1889. In 7 of these there were symp-

toms of stone, and lithotomy was combined with prostatectomy; calculi were found in all these cases—in one case fifty small ones. Only one of these seven cases died, and he was a man, aged seventy-three, who was admitted for retention, and was in a very bad general condition; at the post-mortem many spots of commencing suppurative nephritis were found in the right kidney. Of the six remaining cases, one was not traced, in one there was no improvement since the operation, one continued well for three months and then another calculus formed in the bladder, and the other three (aged fifty-three, sixty-three, and seventy, respectively) were doing well. In the 17 cases in which suprapubic prostatectomy was performed without lithotomy, there were 3 deaths, viz., two within twenty-four hours (one of these from hemorrhage), and one four weeks after the operation. In the latter case the kidneys were found to be granular, and there was a large abscess in the retropubic space. Two other patients also died, but not from the operation, which was successful. One of these died from pneumonia six weeks after the operation; the other became insane and died ten months after operation. In one case, owing to the exceptional hardness of the prostate, only a piece the size of a small pea could be removed, with difficulty. The wound closed a month after operation, but the symptoms were not relieved, so the wound was reopened and a permanent fistula made. The patient (aged seventy-two) was at present confined to bed and wearing a suprapubic urinal of Mr. Buckstone Brown's pattern; but the urine was so very thick that it would hardly pass the pipe. One patient was much relieved, but there remained a very small sinus leading down to the bladder. One patient could not be traced. In the remaining ten the results were good. Seven of these cases were completely successful; in the other three there were occasional bladder troubles. Mr. McGill remarked that fifty-four had been given as the lowest age at which grave enlargement of the prostate was met with, but one of his patients was only fifty-three. This was the first case in his table, and one in which both prostatectomy and lithotomy had been performed; the prostate was the size of a large walnut, and surrounded the urethra like a collar. The credit of inaugurating this operation of prostatectomy was due to Dr. Belfield, of Chicago, who first performed it in 1886.

Mr. Atkinson, of Leeds, supported Mr. McGill in the views the latter had put forward. He had himself had five cases (included in McGill's table), with one death. In the four cases which survived, the patients could not only retain, but could also expel, their urine; they were not only able to tolerate their condition, but were comfortable.

Mr. Reginald Harrison, of Liverpool, said that in many cases the irritation caused by an enlarged prostate was far greater than that caused by a calculus or tumor in the bladder. Cases in which there was enlarged prostate might be divided into two classes: (1) those in which obstruction was the leading symptom; (2) those in which there was, in addition, intense vesical obstruction. Mr. McGill's operation gave the operator the advantage of seeing what he was doing. The early treatment of prostatic obstruction was important. This was a subject much neglected. Some years ago he had advised the use of prostatic dilators similar to those employed for urethral stricture. He referred to an instrument made at his suggestion by Messrs. Tiedemann, of New York, for exercising pressure upon any part of the prostatic ring. He had also devised a prostatome, which had been made by Messrs. Kroline & Sesemann.

Mr. Bruce Clarke remarked the obstruction to the flow of urine depended on two causes, viz., (1) on the prostate extending down the urethra, and (2) on the prostate obstructing the exit of urine from the bladder. He agreed with Mr. McGill, that it was impossible to find out the cause of obstruction by examination per rectum. He had performed suprapubic prostatectomy in two cases. In one case, which was complicated by the presence of a stone in the bladder, the peritoneum was found to be attached to the bladder, and he performed the operation in two stages.

Dr. Ward Cousins, of Southsea, said he had performed two suprapubic operations for the relief of urinary obstruction. Both patients were old men, seventy-eight years of age, and in both the obstruction was found to be due to epithelioma, masses of which he enucleated from the bladder with his fingers. The patients lived two or three weeks in perfect comfort. His chief experience was in median cystotomy; one patient, aged eighty, on whom he had performed this operation, was still passing a short tube by the perineum. He believed acute symptoms resulted from neglected chronic retention. The catheter should be resorted to in time. The necessity of commencing catheter-life could be determined by injecting water into the bladder and seeing how much would be retained. There was a dodge in passing a prostatic catheter. The surgeon should take one with a long beak, pass it right down (the patient being at the edge of the bed), withdraw it an inch, then turn it toward the right or left, depress the handle, and the point would usually jerk into the bladder. When there was cystitis he would inject a solution of boric acid—not more than two ounces; if pain were present he would add some cocaine.

Mr. Jordan Lloyd, of Birmingham, said he could see, from observing the specimens exhibited, that he had not cut freely enough in his own operations. Patients could not be got to use the catheter diligently and intelligently. It was a fallacy to expect always to find an enlarged bladder in cases of retention; when the bladder was contracted it would not enlarge, but no more urine would be secreted. He had not himself been able to shell out prostatic tissue with his fingers.

Mr. Bennett May had not found the removal of prostatic tissue easy, and had been much troubled by hemorrhage.

Professor Trendelenberg spoke of the value of placing the patient in an inverted lithotomy position—the head and shoulders being lower than the pelvis. The peritoneum was thus prevented from interfering with the bladder, and the water-bag in the rectum was not necessary. This position was also valuable in laparotomy. Some weeks ago he had operated for vesico-vaginal fistula by opening the bladder above the pubes; the fistula was high up and near the ureter, which might have been tied if he had operated in the ordinary way. In opening the bladder he made a transverse incision, which gave plenty of room. Some photographs were handed round showing how the interior of the bladder and the orifices of the ureters were exposed to view.

Dr. Hern, of Darlington, spoke of draining the bladder by the urethra, and said we should attempt to get primary union of the suprapubic wound in the bladder.

Dr. Macewen, of Glasgow, said that in one case he had had to make a large wound in the bladder, and it had healed in time extremely well.

Mr. McGill then replied. He thought Mr. Harrison's plan of dilating the prostate one of doubtful value, and he did not approve of the prostatome. With regard to drainage by the urethra, he did not like to make a wound at the neck of the bladder without providing for drainage.

Professor Fraser, of Dublin, then read a paper entitled

A METHOD BY WHICH THE HUMAN BODY, WITH ALL ITS DETAILS OF STRUCTURE, HAS BEEN MADE PRACTICALLY TRANSPARENT FOR OPERATIVE SURGICAL PURPOSES,

in which he described how, by means of a series of plates he had prepared (from sections) and a system of measurements, the exact position of any deep-seated organ could be ascertained.

Mr. William Adams then read a paper

ON THE SUCCESSFUL TREATMENT OF CASES OF CONGENITAL DISPLACEMENT OF THE HIP-JOINT BY COMPLETE RECUMBENCY WITH EXTENSION FOR TWO YEARS.

Mr. Adams maintained that if the head of the bone could be kept in the same situation for two years, the capsule

and the surrounding structures would adapt themselves to their new position.

Dr. Otto Keller read a paper on

TREPHINING IN A CASE OF ACTINOMYCOSIS OF BRAIN.

He had had, he said, two cases of actinomycosis. In one, there were first thoracic and then cerebral symptoms. The patient (a man aged forty) was operated on, and the masses of actinomycosis removed, trephining being employed to remove the cerebral mass. The patient made a good recovery from the operation, but six weeks afterward some weakness of the left arm remained. At the end of a year Graefe's symptom was present, and vomiting returned. Trephining was again performed, but the patient died. Dr. Keller said he had not been able to find any similar case on record.

## Correspondence.

### DETERMINATION OF SEX.

To the Editor of The Medical Record.

Sir: In reading the widely differing theories of medical men, and men not medical, as to the factors which determine sex in the fœtus, one cannot fail to be struck with the fact that the question is in a deplorable muddle. We may be inclined to laugh at the Hippocratic idea of tying up the right or left testicle, before intercourse, according to the sex desired; but there is evidently very little more sense in many of the modern theories.

While one claims that the result of procreation before midnight will be a boy, and after midnight a girl—another that it depends on the relative ages or vigor of the parents—and another that it depends on the menstrual period occurring before or after intercourse—it becomes pretty clear that the exact determining causes are not clear to the medical profession.

Still another theory has been advanced (I believe first by a layman), to the effect that, if at the time of copulation the preponderance of amatory desire was by the father the child would be a female, and *vice versa*.

This last theory is not even mentioned by medical writers, who yet give great prominence to those above. Without being understood as holding to this theory untested, I wish to ask, Why the silence of the medical profession in regard to it? Is it any more absurd, or less likely to be correct than any of the others? I think every candid seeker after truth is compelled to admit that it is as likely correct as any yet advanced.

It is well known that an intimate relationship—but too imperfectly understood—exists between the physical or psychical condition of the parents and conditions or characteristics in the offspring. Is it too much for us to believe that on the line of this relationship may be found the determining factors of sex?

It will readily be seen that this theory, viz., that if at the time of coition the desire for the act be mainly or entirely on the part of the husband, the intercourse, if fruitful, will result in a female child, and a male child if the desire be mainly or entirely on the part of the wife—involves in its consideration the handling of the most delicate affairs of conjugal union.

From the very nature of it, it is impossible for any one man to pronounce this theory correct, from experiments witnessed, or testimony which he may be able to gather from the laity. It is not a matter which one man can devote his life to testing, while the rest of us sit down to await his verdict.

If it is ever decided, it must be by the concurrent reports of almost the whole profession, and since our profession is happily not condemned to bachelorhood, what more trustworthy source of evidence could be had than the domestic experiences of physicians themselves? Such experiences could be reported at suitable intervals to convenient centres, and in ten years a mass of evidence would be available to fully determine the question.

A candid man would not confine himself to a prejudice, or any one theory, but would make careful note of the circumstances attending each act of intercourse (which acts, of course, must be limited in number), and the full data—not his conclusions—sent in to the central bureau.

I do not consider myself sanguine at all when I say I believe that if some such plan were carried out it would enable our profession to clear up at least one mystery, and that, too, in but a short time.

James B. Thompson, M.D.

Rathburee, Siam.

### SYRUPUS ACIDI HYDRIODICI.

To the Editor of The Medical Record.

Sir: As the time for revising our National Pharmacopœia is approaching, it may not be amiss to call attention to preparations which, like the above, are useless in the doses usually prescribed. During the course of a recent severe illness the writer had occasion to test the efficacy of syrup of hydriodic acid, and found it wholly inert when taken in doses of twenty to forty minims, as authorized by the dispensatories.

When made after the formula of the United States Pharmacopœia, 1880, each fluidounce of the syrup will weigh 615.3 grains, and will contain 6.15 grains of iodine, equivalent to 8.04 grains of potassium iodide. Therefore, one fluidrachm of syrup of hydriodic acid is equivalent to one grain of potassium iodide. The futility of prescribing twenty- or even forty-minim doses of this preparation must be at once apparent, yet such is the dose as given in the dispensatories.

The Pharmacopœia of 1860 contained a formula for making what was termed "Diluted Hydriodic Acid." This preparation has been omitted in subsequent revisions, because of its unstable character. It is rational to suppose that the "Committee" intended to furnish for the sixth revision a formula for making a preparation of hydriodic acid that would fairly represent the older preparation, minim for minim; as a matter of fact, the old contained ten times more iodine than the new.

While awaiting the appearance of the Pharmacopœia of 1890, let us cherish the hope that the seventh revision will contain a formula for the preparation of a syrup of hydriodic acid of such strength as to be available for therapeutic purposes.

J. F. Golding, M.D.

Brooklyn, N. Y., September 8, 1889.

Safranine a New Reagent for the Detection of Sugar.—A new reagent for detecting sugar in urine has been found in safranine, which is said to possess the advantage of not being decolorized by uric acid, creatinine, chloral, chloroform, peroxide of hydrogen, or the salts of hydroxylamine, all of which reduce Fehling's solution. Albumen, however, does decolorize it. The process recommended is to boil 1 c.c. of the urine with 5 c.c. of a solution of safranine of the strength of 1 in 1,000, and 2 c.c. of a solution of caustic potash. If decolorization is effected the urine is diabetic, normal urine containing too little sugar to decolorize completely so much of the reagent. Chloral and chloroform do attenuate the red color of the safranine, but never completely destroy it. Chloride of barium has been found by Dr. A. N. Hare to act as rapidly as digitalis in slowing the heart, contracting the blood-vessels, and increasing the blood-pressure. He states that it does not act as an irritant poison unless the dose be many times larger than the medicinal one. In five cases of valvular affection of the heart, and two of functional disturbance of that organ, it was found to act beneficially by Dr. Hare.—*The Provincial Medical Journal.*

## Army News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 8 to September 14, 1889.*

WALKER, FREEMAN V., First Lieutenant and Assistant Surgeon. By direction of the Acting Secretary of War the leave of absence on surgeon's certificate of disability granted in S. O. 92, April 20, 1889, from this office, is extended one month on surgeon's certificate of disability. S. O. 211, A. G. O., September 11, 1889. Upon the expiration of his present leave of absence, to report in person to the commanding officer at Jackson Barracks, La., for duty at that station, and by letter to the commanding general, Division of the Atlantic. Par. 2, S. O. 212, A. G. O., September 12, 1889.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 14, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 69 | 15 |
| Scarlet fever | 23 | 2 |
| Cerebro-spinal meningitis | 1 | 0 |
| Measles | 12 | 1 |
| Diphtheria | 64 | 19 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE NEW YORK STATE MEDICAL ASSOCIATION will hold its sixth annual meeting at the Hotel Brunswick, Fifth Avenue and Twenty-seventh Street, this city, on September 25th, 26th, and 27th inst. The programme is as follows: *First Day, Morning Session.*—"Inversion of the Uterus, Novel Treatment," "The Latero-dorsal Position in Gynecic Irrigation," by Dr. George E. Fell; "The Treatment of Uterine Fibroids by Electricity," by Dr. Henry D. Ingraham; "Pelvic Cellulitis in Women," by Dr. W. H. Robb; "Report of a Case of Laparotomy for Ruptured Pyo-salpinx: Error in Diagnosis; Recovery," by Dr. C. S. Wood; "The Use and Abuse of the Forceps in Obstetrics," by Dr. J. P. Garrish, all of this State. *Afternoon Session.*—Discussion on "Tubal Pregnancy," in which the following will take part: Drs. William T. Lusk, of New York; William Goodell, of Pennsylvania; George T. Harrison, of New York; Howard Kelly, of Pennsylvania; Theophilus Parvin, of Pennsylvania; Isaac E. Taylor, of New York; T. Gaillard Thomas, of New York; Ely Van de Warker, of New York; W. H. Parrish, of Pennsylvania; and W. H. Wathen, of Kentucky. *Night Session.*—"Prognosis in Pulmonary Phthisis. How much has it been Improved, and by what Means?" by Dr. Avery Segur; "Affections of the Eye, Symptomatic of Disease of the Central Nervous System," by Dr. Alvin A. Hubbell; "A New Portable Accumulator," by Dr. Robert Newman; "The Warming and Ventilation of Public School Buildings," by Dr. Ira B. Read; "A Word in Favor of Free Dispensary and Free Hospital Work," by Dr. E. J. C. Minard; "The Microscope in Diagnosis; Personal Observations," "Forced Respirations; Additional Observations," by Dr. George E. Fell, all of this State. *Second Day, Morning Session.*—"Address on Surgery," by Dr. Francis Bacon, of Connecticut; "Alcoholic Paralysis," by Dr. T. D. Crothers, of Connecticut; "A Few Fads," by Dr. H. D. Didama, of New York; "Some of the Uses of the Transfixion Ligature," by Dr. T. H. Manley, of New York; "The Shadow Line of Insanity," by Dr. John Shrady, of New York. *Afternoon Session.*—Discussion of the "Treatment of Hernia," by Drs. Joseph D. Bryant, William T. Bull, Charles W. Brown, T. H. Squire, William S. Tremaine, William T. Ball, Roswell Park, Charles McBurney, Charles L. Squire, D. M. Totman, Frederick S. Dennis, and John A. Wyeth, all of this State. The points which will come in for a share of attention are the special mechanical treatment, the injection, open and non-open methods, the technique and the best plan of treatment when gangrene of the sac or its contents becomes a complication. *Night Session.*—"Lantern Views," by Dr. Edward K. Dunham, of New York; after which a collation will be served. *Third Day, Morning Session.*—Address on Medicine: "On the Bacteriological Test of Drinking-water," by Dr. Edward K. Dunham, of New York; "The Cure of Hæmorrhoids by Excision, and Closure with the Buried Animal Suture," by Dr. Henry O. Marcy, of Massachusetts; "Report of a Case of Ataxic Paraplegia," by Dr. Darwin Colvin, of New York; "Observations on Dislocations of the Hip," by Dr. U. C. Lynde, of New York. *Afternoon Session.*—Discussion of the "New Hypnotics," by Drs. W. H. Flint, Austin Flint, E. G. Janeway, Charles Rice (Ph.D.), Charles G. Stockton, and John G. Truax, all of this State; "Extraction of Cataract without Iridectomy," by Dr. Charles Stedman Bull, of New York; "Two Cases of Angular Deformity of the Knee-joint," by Dr. Lewis Hall Sayre, of New York. The Committee of Arrangements are as follows: William T. Lusk, *President*, and E. D. Ferguson, *Secretary, ex-officio Members of the Committee;* John G. Truax, *Chairman;* Charles E. Denison, *Secretary;* E. S. F. Arnold, Glover C. Arnold, William R. Ballou, Alfred L. Carroll, John W. S. Gouley, John H. Hinton, Charles A. Leale, J. R. Macgregor, S. B. Wylie McLeod, Augustus D. Ruggles, John Shrady, and Isaac E. Taylor. The presence of the members of the profession is especially desirable.

"ELECTRICITY IN GYNECOLOGY," was the title of a paper read at the recent meeting of the Alabama Medical Association, by Dr. W. E. B. Davis, of Birmingham. He believed that ultra-enthusiasm had led to frequent failure in the use of this remedy, but said there should be no question as to its importance as a therapeutic agent in gynecological practice, when such men as Apostoli, the Keiths, Engelmann, and other competent observers, who have had experience in its application, report most satisfactory results. He advised the use of the current of the Edison circuit, direct from the dynamo when it could be had, thereby avoiding the annoyances and inconveniences of a battery. Great stress was laid on the importance of the application of the faradic current in subinvolution of the uterus. Every woman who had had an abortion or had been confined at full term was placed on ergot, but should there be incomplete involution at the expiration of six weeks, he began at once the use of the faradic current, with the bipolar, intra-uterine excitor of Apostoli, and repeated the application every second or third day until the organ had returned to its normal size, "which can always be counted on with mathematical certainty." Cases were reported to show the value of the faradic current in subinvolution of the uterus, and to illustrate its efficacy in displacements due to the enlarged, hyperæmic condition of the organ following parturition. The current of tension—the current from the long, fine wire—had proven a valuable agent for the relief of pain, and cases showing permanent relief were quoted. To illustrate the power of the faradic current on the perineum, vagina, and uterine ligaments in relieving prolapsus of the uterus, and also the effects of the current in relieving pain, the following case was reported: Mrs. P——, aged thirty five, had last child four years ago; since which time she had suffered almost all the time from pelvic pains, insomnia, and very marked nervous symptoms. The pain was so severe at her menstrual periods that she had been advised by her physician

to have her ovaries removed, and it was for this purpose that the speaker was consulted. The uterus was normal in size, but prolapsed to a marked degree, which was due to its relaxed supports. The bipolar vaginal excitor, with strong current, was used every second or third day for two weeks, and at the next period she did not know when the flow appeared. In eight weeks her uterus remained in proper position; she was relieved of insomnia, and her nervous symptoms improved. Two months after the treatment was stopped she became pregnant. Both the currents of quantity and tension were used at each consultation in this case—the former for the relaxed muscle, the latter for pain. The patient always felt better after each séance. The currents of quantity and tension have been used with very satisfactory results as indicated by Apostoli, but he has begun to use the current of tension not only for pain, but to stimulate relaxed and enfeebled muscle fibre. The current of tension is borne better by the patient, and he has been unable to recognize the superior results of the current of quantity on muscle over the current of tension. In displacements of the uterus he supports the organ with wool tampons, and does not object to any form of pessary, properly fitted, in connection with the treatment by electricity. He believes proper support of the organ, combined with the proper application of electricity, to be the most rational treatment for this condition. When the uterus is enlarged from hyperplasia, the continuous current is indicated. All cases of chronic endometritis are amenable to galvanism—the positive current when there is much leucorrhœa or profuse menstruation, and the negative in other cases. From seventy-five to one hundred and fifty milliampères are used twice weekly for five minutes at a time. The sound is usually introduced through a bivalve speculum, and the handle allowed to rest on a large wad of absorbent cotton, which prevents injury to the endometrium. This is preferred because it permits of more thorough antisepsis, and allows the physician to rest his hand during the operation. He did not claim that electricity would do away entirely with such surgical procedures as shortening the round ligaments —Alexander's operation—or attaching the cornua of the organ to the abdominal wall, or the narrowing of the vagina by the many methods at present in vogue; but he insists that many cases could be relieved by this method of treatment which would otherwise be condemned to the knife. The local application of the faradic current is capable of relieving many cases of amenorrhœa due to atrophy of the uterus. In menorrhagia due to relaxation of muscle, to engorgement, when the patient menstruates from eight to nine days, after a few applications the menstrual periods would only last from four to five days. The positive galvanic current is the remedy indicated for hemorrhage due to a disease of the endometrium, and is the current usually indicated for hemorrhage. Women often become pregnant soon after being treated by electricity, and it is unquestionably a valuable remedy for steriliity due to nervous causes, described by Dr. Campbell. In neuralgic dysmenorrhœa and dysmenorrhœa in women of a hysterical temperament—whom the slightest excitement or worry will cause to suffer greatly—those cases where there is no apparent pathological lesion—he has succeeded, as with no other remedy, by the application of the current of tension or by the mild positive galvanic current. The negative current is indicated when the pain is due to mechanical causes in the cervical canal—and when there are inflammatory deposits around the ovaries, etc. He did not think that galvanism would take the place of the removal of the ovaries and tubes, but said each had its special field, and, should electricity fail, no harm had been done, and the operation could still be resorted to. He said the subject which had concerned the profession most in connection with the use of electricity was the treatment of fibroid tumors, and that the results of the treatment in the hands of Apostoli, the Keiths, Engelmann, Lapthorn Smith, and others, had demonstrated that this is the proper treatment for fibroid tumors, which "offer probabilities of healthy retrograde metamorphosis." He had followed Apostoli's instructions in this class of neoplasms, and believed that the majority of cases could be symptomatically cured. Certainly Apostoli's treatment should be tried before resorting to hysterectomy.

The Sensibility of Telegraphers.—The following incidents are from an interesting illustrated paper by Dr. J. Emmet O'Brien, of this city, in *The Century* for September, on "Telegraphing in Battle." "In Butler's advance on the Petersburg & Richmond Railroad, May 7th, a line was carried along with the column to within sight of that road, and worked until Beauregard struck us at Drewry's Bluff, on the 16th, when General Butler ordered his chief operator to 'bring the line within the intrenchments.' In these trenches one night Maynard-Huyck was awakened from sleep, not by the familiar voice of his instrument, but by the shriek of a Whitworth bolt, a six-pound steel shell, which passed through the few clothes he had doffed, then ricochetted, and exploded beyond. Congratulating himself that he was not in his 'duds' at the moment, the boy turned over and slept through the infernal turmoil of an awakening cannonade until aroused by the gentle tick of the telegraph relay. We used no 'sounders' in those days at the front. In illustration of the sensibility of hearing acquired by the military operators for this one sound, the writer may be pardoned another personal incident. At Norfolk, in April, 1863, he happened to be alone in charge of the telegraph when Longstreet with a large force laid siege to Suffolk. In the emergency he remained on duty, without sleep, for three days and nights, repeating orders between Fort Monroe and the front. Toward morning on the third night he fell asleep, but was aroused by the strenuous calls of the fort, and asked why he had not given 'O. K.' for the messages just sent. He replied that none had been received. 'We called you,' said the operator at the fort; 'you answered, and we sent you two messages, but you failed to acknowledge them.' The despatches were repeated and forwarded, when, on taking up a volume of Scott's novels, with which he had previously endeavored to keep awake, the writer was astonished to find the missing telegrams scrawled across the printed page in his own writing, some sentences omitted and some repeated. It was a curious instance of somnambulism."

The Mystery of Pain.—The philosophy of pessimism, associated with the names of Schopenhauer, Hartmann, and Leopardi, owes its influence in no small degree to the depressing relations which a resolute contemplation of the vast amount of suffering and sorrow in the world is apt to excite in some minds. The universality of suffering and disappointment; the wide prevalence of disease; the ubiquity of pain; the frustration of effort; the general admission that the present is unsatisfying, and that only the hope of a better future for the individual and the race keeps energy alive; the confession that "man never is, but always to be blest"—such reflections suggest a basis for pessimism, and explain, if they cannot justify, its hold over many minds of a superior order. But, happily, the pessimistic logic contains one rather obvious fallacy, which robs it of much of its cogency. It accentuates evil and suffering, but omits to take account of the benefits to humanity of which they are indirectly the source and the occasion. The more we reflect upon the subject, the more convinced shall we be that pure, unmixed, unredeemable evil hardly exists, and that some compensation can be found or created in connection with the direst calamity. The hurricane seems the embodiment of destructive and maleficent activity; but if in its train are found ruin and death, there also may we discover a purified atmosphere, the arrest of disease, and the descent of fertilizing rain. When cholera sweeps over wide regions with its pestilential breath the scene is one of destruction, death, despair; but how great the benefit to unborn generations if such a calamity tends to the more careful study and more systematic application of the laws of hygiene. Pain

itself, the most universal of evils, has a side the contemplation of which lends no countenance to pessimism. On this side we shall look for a moment or two. In the first place, pain obviously plays a great part in the preservation of life. If fire did not cause pain in burning, if the knife could pierce the flesh without suffering, if the noisome gas caused no inconvenience to sense or brain, it is difficult to see how, with our present organization, life could be long preserved. We should be constantly courting death, and should remain in ignorance of danger until the mischief effected was irremediable. The child who burns its hands, or cuts its finger, or knocks its head against a table, or swallows some noxious mess, suffers, indeed, but, from another point of view, may be more truly said to be learning invaluable lessons of self-preservation. Probably this, although a painful way, is the only one in which such knowledge could be acquired. In spite of the fact that experience is such a stern instructor and punishes so promptly, it is one of the most common of commonplaces that we are slow to profit by its admonitions, and only learn wisdom after repeated warnings. The pain that follows a breach of Nature's laws may not always follow so quickly upon error as in the cases just cited, but not the less is it salutary. The malaise that follows excessive intellectual effort or a drunken debauch is Nature's admonition that her rule cannot be set at defiance with impunity. The persistence in any course of life, any habit, diet, or occupation inimical to health, is always attended by warnings—at first few and faint, but by degrees more frequent and peremptory —that Nature is being outraged, and that her vengeance will not tarry long. Such warnings are painful, but plainly they tend to the good of the individual and the preservation of the race. The uses of pain are, however, by no means wholly, perhaps not even chiefly, physical. Pain is the great teacher, the great agent in the development of character. It may be doubted whether any of the nobler virtues—self-sacrifice, self-knowledge, courage, patience, tolerance—ever have been, or ever can be, fully developed without the agency of pain. It is those who have suffered who are strong. It is he who has borne pain in his own person who best knows how to relieve, or to sympathize with, the suffering of others. Thus the pain of the individual becomes the fountain of help and consolation to the species. The sorrow of one becomes transmuted into the joy of many. There are also benefits arising from pain which are reflex or vicarious in character. It not only strengthens and purifies the sufferer, but it develops the helpfulness and sympathy of those upon whom he is dependent. Oliver Wendell Holmes beautifully remarks that the long, anxious, arduous tendance upon a sick friend whitens the hair, but also whitens the soul. There is consolation in the reflection that, if sickness and suffering increase the cares and responsibilities of others, there may arise compensation where it is least looked for. It is one of the most pleasing traits of human nature, that we seem naturally to be most bound to those for whom we have suffered most. The mother loves her child not less but more because she suffered in bringing it into the world, and because her only anxiety on its behalf partakes often of the nature of pain. No careful thinker will pretend that the above considerations fully explain "the mystery of pain." It remains a mystery in some respects still; but such reflections tend to lighten its darkness, and to suggest that in ways not yet evident the sorrowing and suffering of the world may be working out the world's regeneration.—*The Lancet.*

THE TREATMENT OF OZÆNA WITH GLYCERINE.—At a recent meeting of the Society of Military Surgeons in Vienna, Dr. Sidlo strongly recommended the treatment of ozæna with glycerine. His method consists in daily washing out the nasal cavity with a two per cent. solution of chloride of potassium, to which ten per cent. of glycerine has been added. This is followed up with the insertion of rolls of cotton soaked in a mixture of one part of glycerine and three parts of water, the tampons being allowed to remain in place for an hour at a time. Using this method, he claims good success in the management of ozæna. The method requires some weeks to effect a cure; but no one who has treated ozæna often will think a few weeks too long to devote to any method which is likely to be successful. The one proposed by Dr. Sidlo is so simple, and apparently so rational, that it certainly seems worthy of further trial, and if other medical men can cure such cases as he has cured in this way, it will be a very useful addition to our therapeutic resources.—*Medical and Surgical Reporter.*

OLD PRIMIPARÆ.—Dr. Truzzi, of Milan, has studied the statistics of a lying-in hospital in that city from 1852 till last year, with a view to ascertain the truth of certain statements respecting first labors comparatively late in life. Most of these statements, familiar to readers of obstetric manuals, were confirmed. The rate of morbidity was found much higher than in younger primiparæ. This fact was ascertained, so far as Dr. Truzzi's cases were concerned, to be due in the majority of cases to renal disease. Puerperal convulsions were found to be more frequent than in younger subjects. A slight degree of contraction of the pelvis caused far more trouble than in more youthful cases. The period of dilatation of the os was long; lacerations of soft parts frequent. Instrumental labor was very often necessitated, especially the forceps, which had frequently to be applied to remedy simple uterine inertia. —*British Medical Journal.*

VENTILATION IN ICELAND.—The extreme cold of the winter in Iceland reduces the system of domestic ventilation in that country to very primitive principles. A traveller there was so choked one night by the close atmosphere of the air-tight little chamber in which he slept, with all the male members of the family, as to be compelled to wake his host, who sprang out of bed at the call, pulled a cork from a knot-hole in the wall for a few minutes, and then, replacing the cork with a shiver, returned to bed.—*College and Clinical Record.*

GUM-CHEWERS' PARALYSIS is the latest form of professional neurosis recorded in medical literature.

FREEDOM OF AIR FROM GERMS.—Dr. Le Fort says that microbes are never conveyed in the air, but only by contact with the fingers, instruments, etc.

SALT IN MILK.—Jacobi recommends the addition of common salt to milk for infants, as it prevents the coagulation in large masses.

COAL-OIL IN INTUSSUSCEPTION.—Dr. Whitney, of Davenport, Washington, reports two cases of intussusception relieved by enemata of coal-oil.

LOCOMOTIVE ENGINEERS are inclined, it is said, to obesity.

FRECKLES are said to be readily removed by a lotion composed of equal parts of lactic acid and glycerine.

SULPHONAL is recommended as an almost unfailing remedy against night-sweats.

DEAD DOGS FOR MEDICAL STUDENTS.—Some medical students having asked the Mayor of New York to allow them a certain number of condemned dogs from the pound, for experimental purposes, that functionary, as the newspapers report, has duly considered the request, also the protest of a certain humane person who dreads the cruelty to which the dogs might be subjected by the students, and has come to the conclusion that he will allow the students a supply of dead dogs, but no live ones. This generosity is about equal to Artemus Ward's, as exemplified in his answer to a person who had asked the privilege of seeing his show without paying: "No, you can't go in without paying, but you can pay without going in."—*The New York Medical Journal.*

# The Medical Record

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## Original Articles.

### CHRONIC ENDOCARDITIS.[1]

BY FRANCIS DELAFIELD, M.D.,

NEW YORK.

IT is proper that I should offer to you some reason for selecting so ordinary a disease as is chronic endocarditis as the subject for this paper. But the ordinary diseases are, after all, the important ones, and often as we see them we never really know them well enough. Any fresh record of facts, any new way of grouping or of looking at these facts, must be of some little service. It is the object of this paper, therefore, not to give a systematic account of endocarditis, but to draw attention to some features of the disease; not to give a history of the views of other observers, but to state simply what I have put together from my case-books and post-mortem records.

Of the ordinary diseases few are more common than is chronic endocarditis. In few of them is there so great a variety in the severity of the symptoms. From the condition of a trifling inconvenience to that of a distressing and fatal disease there seems to be no limit to its various phases. We constantly meet with patients whose heart-valves are seriously damaged, and who yet enjoy good health; can follow laborious occupations, and are often ignorant that they have any disease. On the other hand, we, with equal frequency, see patients in whom the same valvular lesions are attended with the most serious symptoms and with death. It is, therefore, a matter of practical importance to determine, as accurately as we can, why it is that some of these patients do so well and others so badly. For it is in this way that we are most likely also to determine a rational treatment for the disease.

It seems evident that nearly all the most important symptoms of chronic endocarditis are due to the disturbances produced in the distribution of the blood throughout the body. It is by these disturbances of the circulation that the cerebral and pulmonary symptoms, the loss of nutrition, and the dropsy are produced. The problem before us, therefore, is to determine why in some cases of chronic endocarditis there are disturbances of the circulation, and why in other cases there are not. It might seem at first that the solution of this problem is an easy one, that the disturbances in the circulation are simply in proportion to the stenosis or insufficiency of the valves. A very moderate experience, however, is sufficient to show that this is not the case. The problem is a complicated one, and the disturbances of the circulation are due to a number of causes which act singly or together. We may enumerate these causes as follows: The endocarditis; the dilatation and hypertrophy of the ventricles; the inflammation or degeneration of the walls of the heart; the inflammation of the coronary arteries; the abnormal heart-action; the associated pulmonary emphysema, chronic endarteritis, and chronic Bright's disease.

To follow out the mode of action of all these causes is not possible in a paper of this character. I confine myself to the consideration of three of them—the endocarditis, the abnormal heart-action, and the secondary and complicating changes in the kidneys. Not that the others are unimportant, but that these three are perhaps the most important of all.

[1] Read before the meeting of the American Medical Association, June 26, 1889.

1. *The Endocarditis.*—In thinking of persons with valvular lesions we must remember that some of these persons, while under our observation, are suffering from chronic endocarditis, and that some are only suffering from the changes produced in the valves by an endocarditis which no longer exists. In the one case they suffer from a chronic inflammation; in the other, from a deformity. It may be indeed that such a deformity leads to progressive changes in the cavities and walls of the heart. But this is much less likely to happen than if the changes in the valves are also progressive.

Chronic endocarditis may directly follow acute endocarditis; it may be developed after a long interval in valves damaged by an old attack of endocarditis; it may from the first be a chronic lesion. We find, especially in children, an uninterrupted history of cardiac symptoms beginning with an acute attack and continuing as a chronic disease for years. We find in older persons, with marked cardiac symptoms developed late in life, a history of an acute endocarditis in childhood from which they had apparently recovered. We find in adults the gradual development of one cardiac symptom after another, so slow and so gradual that we can hardly date the beginning of the disease.

Chronic endocarditis, when it has once commenced, seems to have a natural tendency to persist and to involve other portions of the endocardium. The cases vary as to the activity of the endocarditis and the intermissions in the course of the inflammation. It is apparently possible for the endocarditis to stop at any time, and the valves will then undergo no further change.

Chronic endocarditis is a productive inflammation, with the formation of new tissue, but without exudation. In its most active form there is a very considerable growth of cells, and also a death of cells, so that the inflamed endocardium is thickened in some places, ulcerated in others, and on the roughened surfaces thus made thrombi are formed. This is the most active and dangerous form of the disease. In its more chronic form the growth of cells is not as great, the cells do not die, the basement substance is thickened. Although the surface of the endocardium is somewhat roughened, and small vegetations are often formed, there are no thrombi. In either form of inflammation there may be added degeneration or calcification of the inflamed endocardium and of the thrombi. It may very well happen that the patient, after suffering from the chronic form of endocarditis for years, may then develop the more active form in the same valve, or in one of the other valves. In the more active form of the disease a large number of the cases run their course within six months from the time of the commencement of their symptoms. A considerable number do not live longer than six or seven weeks. The symptoms are pronounced: Disturbed heart-action; delirium, convulsions, paraplegia; cough, hæmoptysis, dyspnœa; nausea and vomiting; dropsy; loss of flesh and strength, and anæmia, and a rise of temperature. These patients are apt to get rapidly worse, but there may be intermissions, and the inflammation may stop altogether. It seems evident that in the treatment of these patients we must remember that they are suffering from an inflammation of some activity, and that rest in bed, the use of cold or of counter-irritation over the heart, are measures likely to be of use. On the other hand, in the slow form of endocarditis the disease lasts for many years. There are usually intermissions in its course, and it may stop altogether at any time. Many

of the patients have no symptoms. In those who do, some one symptom is first developed, and then, as the disease progresses, others are added. These patients are regularly better for an out-of-door life, with as much exercise as they are able to take.

2. *The Abnormal Heart-action.* — It is possible for a chronic endocarditis to run its entire course with a perfectly regular action of the heart. This, however, is the exception. The rule is that the heart's action is disturbed, and this disturbance is often the most important feature of the disease, and furnishes the principal indication for treatment. Such a disturbance of the heart's action may be due to :

*a.* The endocarditis existing as an inflammation of some activity and producing changes in the heart's action in the same way as does an acute endocarditis.

*b.* Such a degree of stenosis or insufficiency of the valves as will mechanically interfere with the heart's action. This often does not become a factor of much importance until the stenosis or insufficiency is well marked, and for this reason it is easy to be deceived as to the character of the lesion.

*c.* Dilatation and hypertrophy of the ventricles are often present, and certainly have their effect in changing the character of the heart's action.

*d.* Chronic myocarditis and disease of the coronary arteries produce the most extreme and intractable disturbances of the heart's action. Fortunately they are not very common.

*e.* Contraction of the smaller arteries throughout the body, with increase of arterial tension and venous congestion.

This condition, although a frequent complication of endocarditis, nephritis, endarteritis, and emphysema, and occurring as an independent condition in some cases of angina pectoris, is yet something concerning which our knowledge is imperfect. Whether contaminated blood irritates the arteries, whether the nervous centres are irritated by contaminated blood, or in what way the contraction of the arteries is produced, we do not know. But such a contraction is produced, and lasts for hours, days, or months. The same patient may never have but one such attack, or he may have many. In patients who have had many attacks the muscular coat of the small arteries is thickened. Such a contraction of the arteries at once changes the character of the heart's action. It becomes rapid, forcible, feeble, or tumultuous. The degree of the cardiac disturbance is apparently in proportion to the degree and suddenness of the contraction of the arteries, but is not related to the severity or extent of the endocarditis. In the early stages of endocarditis we very often see patients who complain of nothing but dyspnœa on exertion and on lying down, and of precordial pain. Otherwise they feel perfectly well and have normal urine. We find the heart enlarged, its action rapid and forcible, and a murmur indicating disease of one of the valves. The radial pulse is distinctly tense. If by treatment the arteries are dilated the dyspnœa disappears, the heart's action becomes natural, and the patients feel well. Or in further advanced and progressing endocarditis we may follow patients for years, who in spite of their endocarditis feel well except when they have attacks of contraction of the arteries. When they have such an attack, dyspnœa and other symptoms are developed and continue for weeks or months. Then, as the attack subsides, the symptoms disappear, and the patients feel well. The first attacks yield readily to treatment. But as time goes on the attacks are more frequent and more obstinate. The pulse is tense, but small. The heart's action is no longer forcible, but feeble or tumultuous. Occasionally we see patients who go on with a chronic endocarditis for many years, but with few or no symptoms. Then, with a slight pleurisy, or pericarditis, or without discoverable cause, a sudden, extreme, and intractable contraction of the arteries is established, causing the most urgent dyspnœa, and continuing up to the time of the patient's death. These attacks of contraction of the arteries are at first readily relieved by the drugs which dilate the arteries—nitrate of amyl, chloral hydrate, nitro-glycerine, opium, and potassium iodide. The patients do well with an out-of-door life and regulated exercise. But as the endocarditis advances and the valves are more damaged, especially by stenosis, these attacks are less readily relieved, and it becomes necessary to keep the patients more and more quiet.

*f.* Unknown causes, which apparently act through the nerves which regulate the arteries of the heart. These form a large, important, and obscure group of cases. In some of these cases the abnormal heart-action is associated with advanced disease of the valves, and it is only by the results of treatment that we can discriminate how much of the disturbance of the heart's action is due to the valvular lesion, and how much to nervous influences. The pulse is of low tension, feeble, and rapid. The heart's action is feeble or exaggerated. The condition of the patients is often very bad, and yet in some of them very marked improvement is obtained by treatment. These patients at first require complete rest, then massage, and later regulated exercise. The most efficient drugs are digitalis, strophanthus, caffein, convallaria, and barium chloride. The heart seems to be always really a weak heart, even though its action is exaggerated. It is often natural to believe that there is degeneration or inflammation of the walls of the ventricles, but yet after death no such changes are found. In other cases the endocarditis is not advanced, the valves are but slightly narrowed or insufficient, there is little or no change in the size of the heart. The heart's action is rapid, either feeble or exaggerated. The pulse is soft and rapid. The patients often have pain or abnormal sensations referred to the heart; the general health may be very much impaired. Although these patients have endocarditis, yet it is really the abnormal heart-action which makes them ill and calls for treatment. Some of these patients are very easily managed, the heart's action soon becomes normal, the pain disappears, and the patients feel well, although the lesion of the valve still exists. Some of them, on the contrary, do not improve. The disturbance of the heart's action and the other symptoms continue, but yet the patients do not die, nor get worse beyond a certain point. There are, however, occasional cases in which the heart's action becomes very bad, and the patients become very feeble and die. After death we find but moderate changes in the valves, and no changes in the walls of the heart. The management of these cases is apt to be difficult. Attention to the diet, the general health, the habits, the climate, the exercise, is of especial importance. Of drugs one or other of the cardiac stimulants is often indicated.

3. *The Secondary and Complicating Changes in the Kidneys.*—Of the persons who suffer from chronic endocarditis a large number never have any complicating disease of the kidneys. In the persons who die from endocarditis it is rare to find normal kidneys. In judging of the frequency of the kidney lesions the most certain criterion is the autopsy. During life it is not sufficient to examine for albumen and casts, which are often absent, but the quantity of the urine, its specific gravity, and the proportion of urea to the ounce of urine must also be determined. Advanced changes in the kidneys often exist in patients whose urine is said, after a superficial examination, to be normal.

In persons who die from chronic endocarditis we find : Chronic congestion of the kidney; chronic degeneration of the kidney; chronic nephritis.

1. *Chronic Congestion of the Kidney.*—The kidneys are of medium size, or large. Their weight is increased, they are hard, uniformly congested, their surfaces are smooth. The epithelium of the cortex tubes is opaque, flattened, or swollen. The glomeruli show a dilatation of the capillaries, with more or less thickening of their walls, and swelling of the cells which cover their walls. In the stroma there is nothing but some exaggeration of the subcapsular areas

of connective tissue, which are found in normal kidneys. The arteries are normal, the pyramid veins are congested, and sometimes dilated. The urine is diminished in quantity at the times when the heart's action is bad, and returns to the normal when it is better. It is apparently never increased, except from accidental causes. The specific gravity is usually between 1.020 and 1.025, but may for a time be down to 1.010, or up to 1.035. The quantity of urea is rarely less than ten grains to the ounce, it may be as high as twenty-one grains. The specific gravity and the quantity of urea must be judged by examining the urine of twenty-four hours, for several days, with the proper allowance for diet and exercise. Albumen and casts are absent, or present in very small quantities. The effect of the congestion of the kidneys on their functions is simply to diminish the quantity of urine. The quality of the urine is good, and the exudation from the vessels amounts practically to nothing. Apparently the only way in which this lesion of the kidney can add to the symptoms of the endocarditis is by diminution in the quantity of the urine.

2. *Chronic Degeneration of the Kidney.*—The kidneys are considerably increased in size and weight, weighing together from sixteen to twenty ounces. Their surfaces are smooth; the cortical portion is thickened, of pink or white color; the pyramids are red. The gross appearance is that of the so-called large white kidney. The epithelium of the cortex tubes is swollen and opaque. In the glomeruli there is dilatation of the capillaries and swelling of the tuft-cells. There are no changes in the stroma, or in the arteries; the pyramid veins may be congested. The quantity of the urine varies with the changes in the action of the heart, sometimes abundant, sometimes scanty, sometimes suppressed. The specific gravity is not diminished, nor is the proportion of urea to the ounce decreased. Albumen and casts in small quantities are more frequently present than with chronic congestion. While it is difficult to separate the kidney symptoms from the heart symptoms, yet one has the impression that this kidney lesion is more serious than chronic congestion, and has its effect in increasing the symptoms of the endocarditis, especially the loss of nutrition and the anæmia.

3. *Chronic Nephritis.*—A chronic inflammation of the kidneys may follow chronic congestion or chronic degeneration; it is then evidently a direct result of the endocarditis; or it may be developed as an independent inflammation, and is to be regarded as an associated, and not a secondary, lesion.

*a.* Chronic nephritis following chronic congestion of the kidneys. The kidneys remain increased in size, or become somewhat smaller. The capsules are adherent, the surface of the kidney is finely nodular, the consistence of the organ remains hard, and the general venous congestion continues. The epithelium of the cortex tubes is opaque, swollen, or flattened. The tubes may contain coagulated matter. The straight tubes of the cortex and pyramids may contain cast matter. The capillaries of the glomeruli are swollen, their walls are thickened, there is an increase in the size and number of the cells which cover the capillaries. There is a considerable growth of connective tissue in the stroma, distributed according to the arrangement of the normal subcapsular wedges. Within these masses of new connective tissue the tubes and glomeruli are atrophied. The walls of the arteries may be thickened, the capillary veins in the cortex may be dilated and their walls thickened. The quantity of the urine varies very much at different times in the same patient; sometimes it is above, sometimes below the normal. The specific gravity falls to 1.020 or 1.016. The proportion of urea to the ounce is somewhat diminished. Albumen and casts in moderate quantities are regularly present at some time in the course of the disease, but during much of the time they are entirely absent. The patients seem to be especially liable to spasmodic dyspnœa and to loss of flesh and strength.

*b.* Chronic nephritis following chronic degeneration of the kidney. The kidneys are large, their surface smooth, the cortex thick and white, the pyramids red. The epithelium of the cortex tubes is opaque, flattened, or swollen. The convoluted tubes contain coagulated matter, the straight tubes cast matter. The capillaries of the glomeruli are dilated, and the cells covering the capillaries are swollen. There are no changes in the arteries. The quantity of urine varies at different times; often it is very scanty. The specific gravity keeps close to the normal, or may even be above it. The proportion of urea to the ounce of urine is not diminished. Albumen is regularly present in considerable quantities; casts are somewhat less constant. The patients who have this form of nephritis are apt to exhibit the anæmia and dropsy in a very marked degree, and to get worse rapidly.

*c.* Chronic nephritis associated with chronic endocarditis, but apparently not caused by it. Such an association of chronic nephritis with chronic endocarditis is of very frequent occurrence. Either one of the lesions may be developed the first, either one may be of the most importance. In all of these cases, while there is much variety in the gross appearance of the kidneys the changes in structure are much the same. The epithelium of the cortex tubes is degenerated; some of the glomeruli are converted into fibrous tissue, in others there is only a growth of the tuft-cells; there is a considerable growth of connective tissue in the stroma; the walls of the arteries are thickened. There are, however, two points in which these kidneys differ from each other: the quantity of exudation from the blood-vessels and the rapidity of the changes in the kidney. To these two points of difference correspond the differences in the clinical histories. We may, therefore, for clinical purposes, distinguish three forms of chronic nephritis.

1. Chronic nephritis, with a large and continued exudation of serum from the blood-vessels of the kidney into the tubes. The urine is sometimes diminished, sometimes very much increased in quantity. The specific gravity is lowered, often about 1.016. The proportion of urea to the ounce of urine is diminished. The urine constantly contains considerable quantities of albumen and numbers of casts. The patients do badly. Dropsy, anæmia, loss of flesh and strength, and chronic uræmia are the regular symptoms.

2. Chronic nephritis, with moderate and intermittent exudation from the blood-vessels. The urine is more or less increased in quantity, except when the patient has an attack of contraction of the arteries; then it is diminished. The specific gravity is lowered. The proportion of urea to the ounce of urine is diminished. During much of the time no albumen or casts are present, but from time to time, when the patient is doing badly in other ways, they appear in moderate quantities. These patients usually live for a number of years, slowly getting worse. They are especially liable to attacks of contraction of the arteries, with dyspnœa, headache, sleeplessness, and convulsions.

3. Chronic nephritis, with little or no exudation from the blood-vessels, the nephritis advancing very slowly. These kidneys are considered by some authors to be examples of fibroid degeneration rather than of chronic inflammation. The urine shows no change, except that the specific gravity and the proportion of urea, from year to year, are gradually lowered. Some of the patients never have any renal symptoms; some of them have attacks of contraction of the arteries; some of them simply lose some flesh, and a great deal of strength, and die quietly.

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Salicylic Acid in Tonsillitis.—Dr. Haberkorn, writing in the *Centralblatt für Chirurgie* for August 10, 1889, recommends the local use of salicylic acid in tonsillitis, whether simple or diphtheritic. He uses the dry crystals, applying them by means of a throat-brush. This causes no irritation, he says, but the salicylic acid, dissolving gradually, exerts a continuous antiseptic action.

## COLON-FLUSHING IN TYPHOID FEVER.[1]

By A. P. BUCHMAN, M.D.,

FORT WAYNE, IND.

If, in a considerable number of cases of typhoid fever, who all suffer from the same fundamental lesions, present nearly, if not quite, a typical temperature-curve, and altogether run about the same course, and, including environments, receive the same treatment, one observes an amelioration of symptoms that can be safely credited to the *particular* course of treatment instituted and kept up all through the time of high-temperature manifestations, and, in a modified degree, during the period of convalescence, it will, I hope, serve the purpose for which this paper was written, viz., to call attention to the mode of treatment, to present the history of one of the cases.

On July 19th I was asked to prescribe for Mr. W——, aged about fifty, by his wife, she describing a case of simple intermittent malarial fever. I sent him a prescription composed chiefly of quinine, and heard nothing more of the patient until the evening of July 22d, a little more than three days having elapsed, when word was sent for me to call and see the patient. I saw him at 8.30 P.M., and found a temperature of 105° F., tongue red at tip and edges, centre dry and shining, some gurgling in the iliac fossæ, slight tympanites, and some half-dozen thin and rather offensive bowel-discharges during the day just passed; a general tired feeling, some headache, and such other symptoms as go to make up the typical typhoid condition. In addition to this there was acute mental worry, owing to unpleasant business complications. After prescribing and leaving general directions for the night, I left the house in no very pleasant frame of mind. Very acute, almost stinging, mental worry, and a typhoid fever under headway for five days, with the subject working at his desk and on his feet all of this time, was, to say the least, a very disagreeable foreshadowing. I called again next morning, at nine o'clock, when the temperature was 103.5° F., tympanites much increased, some delirium, and very offensive bowel-discharges. This day was passed with extreme restlessness, and at my evening visit the temperature had gone up to 105.8° F., small, thready pulse, very rapid, bowels greatly distended with gas, and so much delirium that it was necessary for someone to remain at his bedside constantly. Just what to do next was a problem that presented itself for immediate solution.

I concluded to wash out the colon with a large enough quantity of water to thoroughly cleanse it, and to this end procured a fountain-syringe of two-quart capacity; filling the reservoir with water directly from the hydrant, to which I added two ounces of listerine, I proceeded to fill the colon.

After waiting a few minutes, the patient was assisted on the commode; the entire contents of the colon were easily passed, thus relieving the ileo-colic valve, and permitting the accumulated gas in the small intestines to pass away as well. The odor accompanying this discharge was simply vile. The patient was now returned to the bed, and I passed my hand over the abdomen to note the condition. I found it flat and soft, all of the distention gone. Within the succeeding forty minutes his temperature had dropped to 101.4° F., the skin became moist, and before I left the house he had fallen into a quiet, peaceful sleep which lasted, with one or two slight interruptions, the whole night. At this point I dropped all drug medication, save a one-grain dose of quinine, three times a day, and substituted colon-flushing. Every time the temperature approached 103° F. the colon was thoroughly flushed, which was from one to three times every twenty-four hours. From July 26th to August 8th there was seemingly gradual but steady approach to the health-level. I say seemingly, for on the morning of August 9th, at four o'clock, I was hastily summoned to the patient. The messenger stated that for an hour previous there seemed to be a great change for the worse. On arriving at the bedside I found the bowels rather distended, the breathing labored and slow—abdominal. My patient was in a state of shock nearly profound, resulting from, as I believed, intestinal hemorrhage. Until 3 A.M. everything had been quiet and favorable. Twice during the night he had taken nourishment with evident relish, but suddenly at this hour the whole scene changed, and they thought the patient dying. I immediately washed out the colon with hot water, first, for its stimulating effect, and, second, to relieve the bowels, as no blood had been discharged. Very soon the water, very bloody, came away, and soon I had the satisfaction of seeing the patient rally, and in less than two hours he seemed as well as he had been at any time the preceding day. From now on he convalesced rapidly. The colon-flushing was continued unremittingly, from one to three times every twenty-four hours, until the period of convalescence had ended, which was, to me, a surprisingly short one. I saw the patient last on the morning of August 20th, when he was moving about the room, and was gathering strength rapidly.

On July 20th I began to use the same method of treatment on a series of five other cases of typhoid fever, giving no drug save one- or two-grain doses of salicylate of quinine three times a day. They have all progressed very favorably, and at this time (August 27th) I have so treated a total of thirteen cases. I wish to add here that at no time did I neglect to have a cold sponge-bath given at least once every twenty-four hours. The diet was chiefly milk.

In summing up, I find the situation about as follows:

1. That from one to three quarts of cold water can be easily and safely passed into the colon, which will rapidly lower a high temperature.
2. That I believe, in some of the cases, the water passed the ileo-colic valve, entering the small gut.
3. That tympanitic distention will always disappear with passing away of the water so injected.
4. That putrefactive fermentation of the bowel-contents is prevented by such use of water.
5. That toxic substances are more rapidly absorbed by the cæcum than by any other portion of the intestinal canal, and that, by a judicious and careful washing with antiseptic water, we can prevent the absorption of such toxic substances, and prevent and modify general systemic poisoning.

August 27, 1889.

[1] Read before the Fort Wayne Academy of Medicine.

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Misapplied Ingenuity.—An Indian contemporary narrates some curious instances of misapplied ingenuity on the part of certain habitual criminals in that country. The discovery on a prisoner of a heavy leaden bullet, about three-fourths of an inch in diameter, led to an inquiry into the object to which it was applied. It was ascertained that it served to bring about the formation of a pouch-like recess at the base of the epiglottis. The ball is allowed to slide down to the desired position, and it is retained there for about half an hour at a time. This operation is repeated many times daily until a pouch of the desired size results, in which criminals contrive to secrete jewels, money, etc., in such a way as to defy the most careful search, and without interfering in any way with speech or respiration. Upward of twenty prisoners at Calcutta were found to be provided with this pouch formation. The resources of the professional malingerer are exceedingly varied, and testify to no small amount of cunning. The taking of internal irritants is very common, but would-be in-patients very frequently overshoot the mark and render recovery impossible. Castor-oil seeds, croton beans, and sundry other agents are employed with this object in view, and the medical officers of Indian prisons have to be continually on the lookout for artificially induced diseases which baffle diagnosis and resist treatment. Army surgeons are not altogether unfamiliar with these tricks, but the British soldier is a mere child in such matters compared with the artful Hindoos.—*Medical Press and Circular.*

## RHEUMATISM OF THE OCULAR MUSCLES.[1]

By JOHN W. WRIGHT, M.D.,

COLUMBUS, O.

ALTHOUGH some particular parts of the body are more disposed to acute rheumatism than others, yet it cannot be denied that all fibro-muscular structure, wherever found, is more or less liable to this affection; and the same cause that will produce it in the muscular tissue in one part of the body is liable to affect this tissue similarly, wherever found.

That persons of rheumatic diathesis do frequently suffer from rheumatism of the fibro-muscular structures of the eye and its appendages, there cannot be a doubt.

That the optico-orbital muscles, as well as the ciliary muscle and the iris, are subject to both the acute and chronic types of the disease, is evident, especially when the patient is possessed of the rheumatic habit.

I believe that iritis, when not traumatic or specific, is generally rheumatic. The same may be said of cyclitis, and perhaps choroiditis. One thing we know full well, that these affections are liable to follow acute attacks of rheumatism, and are liable to attack persons of rheumatic diathesis.

It is not my desire to enter into a discussion of the pathogenesis of rheumatism here; although the general pathology which considers it a blood disease may be regarded as correct, we have never been able to explain by it the symptoms of an acute attack, where, in addition to the constitutional disorder, we have local pain, occasional heat, redness, and swelling, with febrile symptoms; for it is not shown that exudation occurs, or that it is followed by the usual results of that condition.

If there is effusion in acute rheumatism, which is doubtless true, I do not pretend to offer a solution as to its disposal, but one thing is quite sure, that in iritis following rheumatism, or what we are pleased to call rheumatic iritis, there *is* effusion of plastic or serous matter, which frequently plays an important part in the futurity of the eye.

Owing to the structure of the eye, the iris being prominently exposed to view, this exudation is readily seen, and the inflammatory process can be carefully watched; while in other parts of the body the muscular structures are covered and hidden from view by the integument, the connective, and often other muscular tissue.

As this paper has to do with rheumatism of the ocular muscles, we shall proceed to the symptoms preceding and accompanying this affection.

There is generally, at the inception of the affection, constipation, a dry, heavily coated tongue, and a foul breath, accompanied by headache and insomnia; then chills followed by fever, the increase in temperature being usually from one to four degrees.

Like acute rheumatism affecting other parts, rheumatism of the ocular muscles often seems to follow a certain regular and migratory propensity in its attacks, first visiting the muscles of one eye, then those of the other. Often the muscles of one eye alone may become affected, but most frequently those of both. The ocular muscles only may be affected, but generally other parts of the body are at the same time similarly acted upon. I have frequently noticed patients complain of pain in one knee, which, in a short time, would be transferred to the other, then to some other joint, as the ankle, then again to the other; then again, as before mentioned, to the ocular muscles.

Another interesting fact is that while there is pain in the joints there is usually none in the region of the eyes, and *vice versa*. As in acute rheumatism the joints are sometimes swollen and red, and the connective tissue in their region infiltrated, so also the conjunctiva and the connective tissue in the region of the ocular muscles become œdematous, and in some cases there is severe conjunctivitis and chemosis. As in ordinary rheumatism there may be severe pain with very little tenderness or swelling of the joints, so in the rheumatism of the ocular muscles there may be no conjunctival irritation nor infiltration of the connective tissue in the region of the affected muscles, nevertheless the pain is quite severe.

Sometimes all of the ocular muscles are affected, frequently but one or two. This can be readily determined by making pressure upon the closed lids, and the affected muscles thus located, the patient complaining frequently upon the slightest pressure over the affected muscle.

The migratory and systematic order in which acute rheumatism often affects the joints, is again evidenced in rheumatism of the ocular muscles. When the internal rectus of one eye is thus affected and there is a metastasis to the other eye, the internal rectus is the one generally to suffer. When all of the muscles of one eye are affected, the transfer affects those of the other alike. When but one or two of the ocular muscles become rheumatic, there is usually but little or no conjunctival irritation; but when all of the muscles are involved, there is always conjunctivitis with more or less infiltration of the connective tissue, and frequently much chemosis. In some cases of the affection there is excessive hyperæmia of the ocular and palpebral conjunctiva, the blood-vessels being engorged with a superabundant lachrymation, presenting the characteristics of catarrhal conjunctivitis. Sometimes the eyes alone are affected, other parts of the body being entirely free from rheumatic pains. In cases of this kind I have frequently doubted the existence of the affection, when properly directed treatment applicable to rheumatism would mitigate the disease.

The pain and swelling of the ocular muscles are usually confined to the sheaths of their tendons, to which the disease has extended, but particularly to the points of their attachments to the sclerotica, where there is frequently much infiltration, from which the conjunctiva is uplifted, and by reason of this pressure which it (the infiltration) exerts from beneath, the conjunctival vessels are emptied, giving this point the appearance of a pinguecula or an abscess. When there has been very severe inflammatory action I have seen this condition existing at the points of attachment of all the recti muscles. For a considerable time after such severe attack upon the ocular muscles the eyes cannot be moved in any direction without pain. The same causes that predispose to acute rheumatism of the other parts of the body will develop it in the ocular muscles, such as exposure to dampness and cold, and occupying damp rooms.

I am now abundantly satisfied that many of the intractable head pains from which so many suffer are due to some form of rheumatism of the ocular muscles, and that a due regard to this fact would contribute very greatly to palliating much suffering.

[1] Read before the Central Ohio Medical Society, September 5, 1889.

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BACILLI ON A BALD HEAD.—Dr. Saymonne claims to have isolated a bacillus, called by him "bacillus crinivorax," which is the cause of alopecia. It is, he says, found only on the scalp of man, other hirsute parts of the body and also the fur of animals being free from it. The bacilli invade the hair-follicles and make the hair very brittle so that they break off to the skin. Then the roots themselves are attacked. If the microbes can be destroyed early in the disease, the vitality of the hairs may be preserved, but after the follicles are invaded and all their structures injured the baldness is incurable. The following is Dr. Saymonne's remedy to prevent baldness: Ten parts crude cod-liver oil, ten parts of the expressed juice of onions, and five parts of mucilage or the yolk of an egg, are thoroughly shaken together and the mixture applied to the scalp, and well rubbed in, once a week. This, he asserts, will certainly bring back the hair if the roots are not already destroyed, but the application of the remedy must be very distressing to the patient's friends and neighbors.

# Clinical Department.

## GANGRENE FOLLOWING CONTINUED FEVER.[1]

By F. W. P. BUTLER, M.D.,

EDGEFIELD, S. C.

On the morning of November 27, 1888, I was called some miles into the country to see M. M——, twenty-eight years of age. Family history, as far as I could ascertain, was good, with probably two exceptions—his grandmother and an uncle, I learned, had died with a trouble very much like the one from which he was now suffering. On entering the cabin I found my patient lying over in a dark corner; he was very much emaciated, weak, and covered over with four or five heavy quilts. As soon as I entered the hut I recognized the characteristic gangrenous odor. I uncovered the affected limb, and discovered a cold, darkened leg, insensible to the touch of my hands, or to the prick of a pin. The line of demarcation had just begun to be formed, and I should have amputated then, but was compelled to endeavor to revive the dying leg. The family told me he had been sick two or three weeks, and had been attended by a physician in the neighborhood, who had given up the case.

I was certain I had a case of gangrene, with no lesion or traumatism to cause it. I really did not know the true cause then, but told them it was gangrene, and I would endeavor to save it, but thought it was too late. I dressed the leg antiseptically and with warm applications, and put the patient on tonic pills of iron, quinine, and strychnia, for then he was suffering no bowel or stomach trouble, but was intensely weak and reduced; also ordered small quantities of milk-punch regularly and often. I did my utmost to save the limb, but told them, after the second visit, that on my next visit the leg would have to come off, for now the line of demarcation had fully formed and the odor was terrific, and I saw that, under the existing circumstances, pyæmia would soon set in. So, on December 4, 1888, accompanied by Drs. Hill and Tompkins, I repaired to the place to amputate. I forgot to mention that when I first saw the man I also found him suffering from an immense, putrid, black, nasty smelling bed-sore in the lower part of the back, near the prominent portion of sacrum; this was protected as well as circumstances would permit. I amputated about six inches below the thigh-joint, as I was fearful of a recurrence of the gangrene. I made part skin and part muscular flaps. The parts were brought together with wire, and a wet sublimated dressing (1 to 2,000) applied over the stump, and on top of the wet dressing carbolized gauze and borated cotton, with bandages over all. The patient stood the operation well, notwithstanding his great weakness and depletion. I remained in the neighborhood that night, and he passed a tolerably good night. The whiskey and milk were increased, as was the quinine. The bed-sore mentioned above was dusted over with iodoform and wheat-flour, and protected from the bed. The enormous bed-sore added to the magnitude and apparent hopelessness of this terrible case. The patient was delirious, wandering, and feverish for four or five days, pulse weak, quick, and thready. I then put him on tincture of digitalis combined with the whiskey. Everything went on as well as I could expect until the fifth day, when, owing to a rise in the temperature and an unpleasant odor of the stump, I dressed it. Much to my regret, I found the femur had projected, then the flaps and the parts were in a complete state of suppuration. Evidently the man, in his delirium and restlessness, rolled over on the stump, and the bone pushed through the skin. I now determined to apply a dry dressing of sublimated gauze, and did so. In the meantime I did all I could to protect the bed-sore, but found a hard job, for two more bed-sores of a gangrenous character now appeared on each hip-bone, to which I also applied iodoform, and protected them with pillows as best we could. These bed-sores gradually sloughed off and began to granulate. I gave him as a nourishment bovinine and milk, with soup and light diet. Fortunately for me and my patient, his stomach never failed him once, and he took everything apparently with relish. He was doing well, the bed-sores healing, and the projecting bone gradually disappearing by healthy granulating tissue. After the febrile state had subsided to some extent, I prescribed sulphate of strychnine, gr. j., and solution of malate of iron, ℥ j., fifteen drops to be given three times a day. The quinine, gr. iij., was kept up continually.

I was just beginning to congratulate myself, as I now thought my patient was good to recover; but lo and behold, on the third week after the first amputation the other foot began to pain and get cold. I at once began warm applications, and tried every conceivable plan to save this leg, but all my efforts were futile. So soon as the line of separation began to form, I determined to operate, and, in fact, the poor unfortunate negro begged me to do so. I saw that the dorsal artery was affected, and that gangrene had begun. On February 7th, with the assistance of Drs. Beall and Nicholson, I amputated just below the knee, obtaining a good muscular flap. I concluded to dress this stump differently from the other, so I brought the flaps together with horse-hair and applied a dry dressing of sublimated gauze made of cheese-cloth. The man stood the operation well, took the same kind of anæsthetic as given before, easily. The bed-sores were healing, and the patient from this on gained strength daily. The stump healed by first intention, and there have been no signs of a return of gangrene in any part of the body. He is now doing well without his legs. I am led to conclude, from my experience with this case, though it is limited, and hardly enough to form opinions on, first, that as soon as we notice no signs of return of life to the part affected, sometimes even before the line of separation or demarcation forms, amputate high up above the seat of trouble; second, that judging from my meagre experience and that of my professional brethren in this town, a dry dressing antiseptic gives the best results.

[1] From a paper read before the annual meeting of the South Carolina Medical Association, 1889.

## POISONING BY TANSY.

Dr. W. A. Belt, of Kenton, O., reports the following case: "Mrs. K——, not having her menses for some five weeks, thought herself pregnant, and not wishing to have any more children followed a neighbor's advice and set about taking five drops of the oil of tansy every few hours. Not succeeding in bringing about her menses she took about one drachm on sitting down to breakfast. She felt no unusual symptoms for about a half-hour, when a "dizzy sensation" came over her. She ran out doors and a moment later was picked up by her husband in convulsions resembling epilepsy. There were the spasmodic contractions of the limbs, frothing at the mouth, and unconsciousness. I found her in this state, with a thready pulse, very intermittent, respiration scarcely perceptible, and cyanotic. Thinking there was enough food in the stomach from her breakfast to hold a good part of the oil yet unabsorbed, I administered apomorphia muriate, gr. $\frac{1}{10}$, hypodermically. In a few moments she vomited very profusely, there being a great amount of gastric juice. After this she revived by repeated doses of brandy, but did not regain her consciousness for two or three hours. She remembered nothing about what had happened. Her tongue was lacerated, as is often seen after a severe epileptic fit, the pulse ran up to 120, and temperature to 101° F. for the balance of the day. Headache persisted for three days, and fainting every three or four hours for two days. The menses made their appearance, but not from the action of the drug, for she was nursing a child about six months of age, and they had been irregular. There were no signs of an abortion." J

## Progress of Medical Science.

Regulation of Breathing in Seasickness.—Dr. Ivan A. Mitropolsky, of Moscow, warmly recommends, on the ground of his personal experience, the following simple method for preventing or aborting all symptoms of seasickness. As soon as giddiness, nausea, etc., appear, the author shuts his eyes, and begins to make deep and slow inspirations and expirations. In a few moments (sometimes after three or four respiratory cycles) the symptoms disappear, to yield to a comfortable subjective sensation. On their reappearance the same procedure is repeated again and again. If the recurrence be rather frequent, it is better to perform the procedure in a recumbent posture (with closed eyes). Since the time the author has begun to practise the method he never yet suffered from vomiting when on board. In referring to this case in the London *Medical Recorder*, Dr. Idelson says that Dr. Mitropolsky seems to think that the means proposed by him is novel. Meanwhile, in the *British Medical Journal*, March 24, 1888, p. 676, he will find a very interesting note by Dr. J. J. Leiser, in which the writer says (1) that seasickness is caused by irregular and imperfect respiration, leading, necessarily, to an inadequate aëration of the patient's blood, which consequently becomes poisonous to his brain and gives rise to sympathetic sickness; (2) that a system of regular, free breathing prevents sickness or rapidly relieves it; and (3) that his experiments were successfully repeated by Drs. G. C. Stockman and C. W. C. Prentice, who, having selected ten suffering passengers, each seated himself with five of them and "timed the breathing in the following manner: they (the doctors) raised the hand from the knee, indicating an inspiration, and down again for an expiration, thus timing the respirations to exactly twenty per minute. At the expiration of one hour the active symptoms in each case had entirely subsided." By this time the doctors had thoroughly educated their patients in the *modus operandi* of the cure. The cases continued to be permanent "cures" during the remainder of the voyage from Queenstown to the United States. The writers conclude by asserting that "the cure is infallible in all cases that persist in carrying it out."

Movable Heart.—Of five cases of movable heart studied by Professor Rumpf, three were the results of dietetic and medicinal attempts to cure obesity, one occurred after violent nervous excitement, and in one no cause could be assigned (*The Lancet*). The chief complaint of the patients was great debility and incapacity for work; other symptoms were pains in the chest, uneasiness, anxiety of mind, vertigo, asthma, and accelerated pulse. One symptom especially is always present in these cases—all the signs become less in the patient when lying on his back, and worse when he is on his side, and he feels better when he is standing up, though the pain does not disappear; occasionally, however, there is vertigo and malaise. The examination of the heart in the erect or horizontal position, and with the thorax bent forward, shows nothing whatever abnormal; when, however, the patient lies first on the left and then on the right side, the abnormal mobility of the heart becomes very distinct. In one case the apex beat shifted thirteen centimetres, in another from four to five centimetres. When the patient lies on his left side the area of the cardiac dulness seems larger, when on his right smaller, while at the same time the position of the aorta and of the pulmonary artery is also changed; in one case they moved one centimetre in the direction of the displaced heart. Dr. Rumpf considers the movable heart to be not a mere irregularity, but a pathological symptom, as the average normal movement of the heart is at most two centimetres to the left and one and a half centimetre to the right, as he observed this dislocation in one case of tuberculosis of the lungs and in one case of muscular atrophy.

Local Application of Chloroform in Epididymitis.—Dr. Clemens, of Frankfort, claims that he has obtained great benefit in cases of epididymitis, both specific and non-specific, by means of chloroform locally applied. He regards as most unsatisfactory the treatment of the affection by other methods as compared with his own, which he has employed now for a great many years (*The Lancet*). It consists in laying some cotton wool saturated with chloroform and spirit at the bottom of a large glass vessel, into which the genitals are then put and packed round with dry cotton wool, the buttocks and thighs forming a cover, this application being continued for from fifteen to twenty-five minutes, and repeated two or three times a day. Pathologically, he considers venous congestion of the epididymitis and the cord through retention of semen a predisposing cause of the disease. He also considers epididymitis as very likely to occur when gonorrhœa has been contracted in excessive venery. He mentions a case of treatment by chloroform, thirty-six years ago, not of epididymitis, but of periodical "heat," occurring in the human subject. The man used to suffer periodically from a form of orchitis, during which the testes felt hot and swollen, and the plexus pampiniformis was full and turgescent like a varicocele. He was ordered the local application of chloroform three times a day, from fifteen to twenty-five minutes each time, but the first time he bore the chloroform for nearly thirty-five minutes, after which the pain of the severe attack completely ceased and the swelling considerably decreased. This treatment lasted three days, during which time he was able to walk about, the cotton wool which had been used for the chloroform being put into the suspensory bandage and the testes covered with it. After that both the swelling and sensibility disappeared. Another case is mentioned where epididymitis had been caused by the continuous pressure of a rudder handle on the hypogastrium, in which similar treatment proved entirely successful. Again, a class of cases that is usually very difficult to treat—viz., that of gonorrhœal orchitis—seems to have proved fairly tractable when managed with the help of chloroform. Here one of the first signs of improvement was frequently the re-establishment of an old discharge, which was soon cured simultaneously with the epididymitis.

The Typhoid Bacillus in the Fœtus.—Dr. Eberth has reason to believe that the bacilli of typhoid pass from the mother to the fœtus. From a woman who died in the fifth month of gestation he removed the fœtus, and examined fluid from the heart, spleen, and lungs (*The Medical Press*). He found bacilli that possessed all the morphological and vital characteristics of the bacillus of typhoid. Dr. Gaffky, the well-known authority on the bacillus in question, agreed with the writer that the bacillus thus met and that of typhoid were identical. It is rather important to know whether the bacillus of typhoid can pass from the blood of the mother to the fœtus, *i.e.*, whether a child can have typhoid before its birth, and it appears on present evidence that it can.

Dysmenorrhœal Membrane.—Is membranous dysmenorrhœa a little more than menstruation and less than pregnancy? Can dysmenorrhœal membrane always be distinguished from the decidua in early pregnancy? These questions are of high import and deserve the attention of practitioners and histologists. The subject was raised at the July meeting of the Obstetrical Society of London, where some decidua-like fragments were exhibited. They had been discharged from the uterus some time after removal of the appendages. The theory that membranous dysmenorrhœa represents periodical abortion within one month after impregnation is very plausible. It is supported by Dr. Cory's case, published in the "Transactions of the Obstetrical Society," vol. xx., 1878, where no membranes were passed at period whenever the patient lived apart from her husband. The phenomenon might, on the other hand, be explained by the sexual rest which temporarily cured a true "dysmenorrhœa," as dis-

tinguished from an incipient pregnancy. All cases of membranes passed from the uterus at regular intervals deserve the most careful clinical record, and, at the same time, the membranes ought to be preserved in spirit and sent to a competent histologist. The habits of the patient should be investigated; the effects of separation from her husband very closely watched. On the other hand, the histologist, as a man of science, should feel sure that he can correctly interpret the microscopical appearances of the membranes. Above all, he must not give an opinion unless he knows, from practical research, the appearance of the endometrium at and between the catamenia, and also in early pregnancy.—*The British Medical Journal.*

Unsuspected Lead-poisoning.—Dr. Lermuseau has brought before the Liège Medical Society some instances showing that a good many cases of colic, the origin of which is unsuspected, are in reality nothing but cases of lead-poisoning. A large number of them are due to the practice of pumping up beer in public-houses through leaden pipes, or at least through pipes which contain a considerable proportion of lead. Publicans and others frequently drink this beer early in the morning on an emptv stomach, and this habit is a most fruitful source of lead colic. Of course, in many cases there is a blue line to be found on the gums, but sometimes this is absent, and then the diagnosis is very difficult. Occasionally, the so-called method of Cicconardi may be useful in clearing up the diagnosis. It has been employed in Professor Rommelaere's wards, and consists in painting the surface of the skin covering the thorax with a six per cent. solution of sulphite of soda. If lead is present in the tissues a dark discoloration caused by the formation of the sulphide soon makes its appearance. Dr. Lermuseau complains of the apathy and incredulity of publicans even after their attention has been called to the danger of using leaden pipes for their beer—a danger from which the publican is usually the very first to suffer. It is urged that a stringent law ought to be passed entirely forbidding the use of leaden pipes for beer-pumps. Dr. Lermuseau suggests the substitution of glass or hard rubber pipes, but these substances are less convenient, because they cannot be bent in all directions in the way that lead can. It would appear that, according to a law made in 1790, the communal administrations have all along had ample power to deal with cases of this kind, if they would only exercise it. Something more stringent is evidently necessary, and Dr. Lermuseau urges upon his *confrères* to bring all the pressure possible to bear upon members of the two Houses of Parliament, in order to get some more satisfactory legislation on the subject.—*The Lancet.*

Physical and Mental Changes after Removal of Ovaries or Uterus.—Dr. Glævecke, of Kiel, has lately published a paper in the *Archiv für Gynækologie* on this subject. According to this author the changes usually met with were those observed at the menopause (*Berlin Cor. Medical Press*). Menstruation permanently ceased, immediately or shortly after the operation of removal, in eighty-eight per cent. of the cases. In the remainder it was less frequent and more scanty. Practically, no vicarious menstruation was observed. Menstrual molimina were observed in thirty per cent. In the time between the periods the familiar characteristic disturbances were observed—hot flushes, perspiration, and faintness. He looks upon them as disturbances of the vaso-motor system, in consequence of the cessation of the ovarian function; an observation, by the bye, that does not throw much light on the subject. He does not remark the very long continuance of this most uncomfortable condition in many of the cases—four and five years. In four cases out of a total of forty-three, palpitation and headache came on, in one nausea coming on several times a day, in another vomiting, in one diarrhœa, in one acne of the face lasting over a year, and in two increasing weakness of intellect. Atrophy of the internal genitals was a consequence of the operation. In twenty-three cases in which the operation was performed for myoma uteri, distinct shrinking took place in the tumors in ninety per cent. In forty-two per cent. of the cases a distinct increase in weight, due to deposit of fat, was observed. Sexual desire was unchanged after removal of ovaries in only a few women. Both desire and pleasure were much diminished, but not in the same proportions in all cases. As regarded the psychical condition, almost always a depressed, low-spirited condition was remarked. Many women became melancholic, others showed a changeable and petulant disposition. Actual psychoses developed in three cases; two recovered in the course of a year, the third was incurable.

The changes were different when the uterus was extirpated. Menstruation ceased and no vicarious menstruation followed. Out of thirteen cases of total extirpation of the uterus, strong molimina were observed in nine. If the ovaries were not removed atrophy of the external genitals did not take place. But little increase of weight took place after extirpation of the uterus. Sexual matters were almost unchanged, a slight diminution of sexual pleasure was acknowledged in a few cases. Psychically, no change was observed in one-half of the cases; in more than a third a melancholy so great as to constitute a psychosis was observed. On the whole, the bodily and mental changes after castration were much greater than after extirpation of the uterus.

Acute Traumatic Pneumonia.—Dr. Sokolowski has published a paper on acute croupous pneumonia of traumatic origin. Two cases came under his observation lately. They refer to lads of fourteen and nineteen, who received violent traumatic injury to the chest anteriorly, and in whom, several days later, there developed croupous pneumonia localized in the region injured. In both, the attack was rather severe and characterized by an intense local pain, the course of the disease being typical, and terminating by a well-pronounced crisis. Such cases are well known to clinicians. They are not so very rare, to judge from the fact that among Frerich's 300 cases there were as many as 14 which had a distinct etiological connection with traumatic causes. From the point of view of modern etiological theories their causation may be explained, seemingly, pretty simply: a traumatically injured pulmonary tissue appears to lose its power or resistance to the pathogenic microbe of pneumonia; hence the inflammation arises. Practically, cases of the sort are especially important in forensic respects. The expert may be asked whether this or that traumatic injury to the chest (for instance, inflicted during a fight) can be regarded as a real cause of an attack of pneumonia developing more or less immediately after the injury. Such cases as Dr. Sokolowski's seem to justify a positive answer to the question.—*St. Louis Medical and Surgical Journal.*

The Infective Period in Contagious Diseases.—In the *Glasgow Medical Journal*, Dr. James Finlayson contributes an article in which he has collected and tabulated the views of recent authorities on the infective and incubation period in contagious diseases. The author has drawn up three tables, one showing the various views of well-known authors as to the infective period, another showing the period of incubation, and a third showing the period of quarantine necessary to enforce in cases where the patient has been exposed to infection, before they should be allowed to be considered safe to mix with others. Some such rules are also required as to the time when it is safe to allow healthy children to return to school, if they have brothers or sisters suffering at home from infectious diseases, especially if they themselves have once had the disease. The infective period for scarlet fever is from seven to eight weeks; measles, three to four weeks; Rötheln rather less; mumps varies from two to four weeks, and whooping-cough is usually put down to eight weeks or more. The paper is a very instructive one, and every general practitioner would do well to keep a copy of it always ready for reference.

# THE MEDICAL RECORD:

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## AN OLD SURGICAL SUPERSTITION EXPLODED.

DR. H. A. HARE has been making an experimental study of the effects of the entrance of air into the circulation, and he has obtained results quite opposed to current surgical teaching regarding this matter.

Dr. Hare experimented upon seventy dogs, of all sizes, ages, and conditions. He injected air into the jugular veins and carotids in doses of from a slight bubble up to forty cubic centimetres. He found that air injected in the above amounts into the veins caused no serious effects whatever, except, perhaps, a brief quickening of respiration and fall of blood-pressure.

When air was injected into the carotid, however, the effect was different. In from one-half to one second respiration ceases at once, unconsciousness asserts itself, and the animal is apparently dead, save for the action of the heart, which keeps on as if nothing had occurred. In a moment respirations are renewed, the breathing becomes at first more powerful, then less and less so till death really ensues—a result which can be indefinitely postponed provided artificial respiration is kept up. Sometimes the animal begins to breathe voluntarily, and lives independently of any such aid; in others he dies at once when the artificial respiration ceases.

Dr. Hare reviews all the various experimental and surgical evidence on which is based the prevalent opinion that air getting into the veins causes death. He thinks this evidence quite valueless and adds: "While we have a large number of cases reported of sudden death under operations where veins were opened, in the majority of them the cause of death has been guessed at and not proved. The only case which approaches in any way toward authenticity is that of Mott, who saw a serious but not fatal result induced by the entrance of air into the facial vein, and even this is not a proved case. The case of Barlow is equally doubtful as to the real cause of death.

"There are a number of cases on record where death has resulted, according to the physician in charge, from the entrance of air into the uterine sinuses." These are not discussed by the writer, as they are somewhat different in their character, in that the character of the accidents and the peculiar anatomical arrangement of these veins render the entrance of large amounts of air more easy of accomplishment.

The conclusions reached, then, are: 1. Death never occurs from the entrance of air into the ordinary veins of the body unless the quantity be enormous—from one to several pints, a quantity which cannot enter unless deliberately sent in by the surgeon.

2. The cases on record have been due to other causes than air and have not been proved.

3. The tendency of the vessel to collapse and the leakage of blood prevent any entrance of air, and it would seem probable that a clot has generally caused death, not the air itself.

It must still be remembered that Dr. Hare's positive evidence of the innocuousness of air in the veins is based entirely on experiments upon lower animals.

## THE NEW BUILDING FOR THE ACADEMY OF MEDICINE.

THE corner-stone of the new building for the New York Academy of Medicine will be laid, with appropriate ceremonies, at Nos. 17, 19, and 21 West Forty-third Street, on Wednesday, October 2d, at 4 P.M. Thus the time comes for a realization of hopes, long deferred, for a fitter dwelling-place of the medical profession of this great metropolis. It will be the new home around which will eventually centre all those social and scientific influences, which will make the medical fraternity a power for good, not only in this city but throughout the land. It will, we trust, be an event ever to be remembered in the medical history of New York as marking an era when the foundations for professional unity and brotherly love shall be securely laid, and when each and all shall be stimulated by the laudable ambition to work for the common good. It well becomes one and all to enter heartily into the spirit of the occasion. Every member of the Academy should lend the influence of his presence, and prove to the laity that their generous donations have not been vainly or unworthily bestowed.

Heretofore the profession has not been as responsive to public interest as it should have been. The laymen are hardly prepared for such indifference, and are consequently ready with excuses when donations are required. It goes without the saying that the profession must first show itself in earnest in enterprises of the kind to which we refer, in order to have a becomingly responsive action from the men of money and influence who can aid us. Therefore a large gathering is to be expected—members of the Academy surely, and as many of their friends, male and female, as can come. The exercises will be interesting, and the addresses, particularly the one on behalf of the Academy, will be well worth hearing. The following will be the programme:

Invocation, by the Right Rev. Henry C. Potter, D.D.; Address by Ex-President A. Jacobi, M.D.; Remarks by the Hon. Grover Cleveland; Laying of the Corner-stone by the President, Alfred L. Loomis, M.D. Benediction.

## SUCCESS IN PRACTICE.

SIR ANDREW CLARK, one the most successful and distinguished of English physicians, has recently had a portrait of himself presented by the staff of the London Hospital. In his speech replying to the presentation address Sir Andrew gave some account of his life and of the causes of his professional success. His story deserves perusal. Sir Andrew was born in Scotland, and went to

London thirty-six years ago, a young man in delicate health and without a single friend or influential connection. He had, however, a "small patrimony" and was enabled to pursue the study of pathology and to keep himself quite free from any intrigues or quarrels. He devoted himself to work, and before many years, despite ill-health and opposition, he was made physician to London Hospital. His subsequent success was slow but continuous, and was achieved without any definite expectation at first that it would eventually be so brilliant. Sir Andrew gave the following as some of the conditions necessary for success in medicine:

"Firstly," he said, "I believe that every man's success is within himself, and must come out of himself. No true, abiding, and just success can come to any man in any other way. Secondly, a man must be seriously in earnest. He must act with singleness of heart and purpose; he must do with all his might and with all his concentration of thought the one thing at the one time which he is called upon to do. And if some of my young friends should say here, 'I cannot do that—I cannot love work,' then I answer that there is a certain remedy, and it is work. Work in spite of yourself, and make the habit of work, and when the habit of work is formed it will be transfigured into the love of work; and at last you will not only abhor idleness but you will have no happiness out of the work which then you are constrained from love to do. Thirdly, the man must be charitable, not censorious—self-effacing, not self-seeking; and he must try at once to think and to do the best for his rivals and antagonists that can be done. Fourthly, the man must believe that labor is life, that successful labor is life and gladness, and that successful labor, with high aims and just objects, will bring to him the fullest, truest, and happiest life that can be lived upon the earth."

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## THE BRITISH MEDICAL ASSOCIATION DIVIDED.

The British Medical Association has been of late years so continuously prosperous, and so active in every kind of work pertaining to the interests of the medical profession, that the announcement of a fatal split in its ranks awakens astonishment as well as regret. Yet, if we may believe the *Medical Press and Circular*, "L'affaire Mackenzie has assumed proportions which threaten the life of the Association." Our contemporary goes on to say that "The party of dissatisfaction has publicly intimated that unless the Council listens to the representations which it has made as to the management of the *Journal*, it will secede from the organization. The Council has not had the discretion to recognize that this party includes the majority of the very best men in the Association, and has been so undiplomatic as to return a gratuitously curt and offensive answer to their letter; there is every reason to apprehend that the threat of the dissentients will be carried into effect without delay, and that the defection will take with it out of the ranks of the Association most of those members whose presence has lent *éclat* to the meetings.

"The influence of the party in hostility to the Council cannot fail to be vitally injurious to the Association, and already has had the effect of preventing the annual meeting from taking place next year in London, as was intended."

We incline to think that our esteemed contemporary takes rather too dark a view of the matter. The extraordinary growth and popularity of the *British Medical Journal* has never been a source of unmixed satisfaction to its rival weeklies, and a split in the Association might mean, perhaps, a little more even distribution of circulation. If, however, the medical profession of England allows its strongest and most useful organization to be wrecked simply because of personal dissatisfaction with one of its members, it will be a lasting disgrace to our profession. And it will afford the strongest proof yet offered that doctors cannot agree, even in trying to promote their own interests. Indirectly it would also affect our own Association, which can yet but ill afford discouragements.

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## NÆVUS TREATED BY INJECTION OF ALCOHOL.

The treatment of nævus is various, and, if the old rule holds good, this fact proves that no method of treatment yet invented is satisfactory in all cases. Dr. Holgate, (*Archives of Pædiatrics*, June, 1889), describes still another method, as far as he knows a new one, which has given satisfaction in the two cases in which it was tried. He first reviews briefly the best methods heretofore employed. The compound tincture of iodine is efficacious when applied to small nævi, but fails to cure large ones. Tartar emetic, one part by weight to four of galbanum plaster, collodion, collodion with corrosive sublimate, and creosote, have all proved satisfactory in some cases. Vaccination on the nævus cures at times, as does also the application of caustic potash or of nitric acid, but all of these leave a scar which may be more unsightly than the nævus itself. Injection of perchloride of iron has been successful; but in a case cited ten minims produced instant death in a child. Setons have wrought cures sometimes, and cure has also followed ligation, after the passing of pins under the tumor. Excision is too bloody, and leaves a scar. The passing of a silver wire into the skin around the nævus, and out again at the point of entrance, the wire being then gradually tightened, has cured without leaving a scar. Many other methods have been employed, one of the best being destruction of the growth by electrolysis. The objection to this method is that it requires the use of an electric battery and needs considerable practice. One of the latest suggestions is to apply the ethylate of sodium or potassium to the nævus. If the application is repeated from time to time it will eventually effect a cure.

In 1885 Dr. Holgate was requested to remove a pendulous vascular nævus, situated outside the right ala nasi of a boy four years of age. It was half the size of a filbert, soft and compressible, but swelling out quickly when pressure was relaxed. At birth it was a port-wine mark, level with the skin. It had several times bled profusely and persistently. Fearing hemorrhage and a resulting scar, if scarification were used, he determined to try the injection of ninety-five per cent. alcohol. Applying a common eyelid-clamp around the base of the growth, to arrest the circulation, he passed a hypodermic needle through its centre, longitudinally, near its base, and injected

from five to seven minims of rectified spirit of wine, gradually withdrawing the needle as he injected. The tumor became quite solid. Finding it, a fortnight later, softer and much shrunken, he now passed the needle into the growth at a point from which its vessel-supply started. Six weeks later it was one-eighth its original size. It was injected again at this time, and a fourth time two months later. As the nævus had become so small, it was quite difficult on these last two occasions to pass the needle into the skin. Three years later, when this article was read, the nævus had become so reduced and the skin over it had returned so far toward its normal condition that an observer would see no difference in the alæ unless his attention were directed to the existence of the nævi. No treatment was now employed except painting the spot from time to time with glycerine. There was no scar, except at the point where it had previously ruptured spontaneously and bled.

The second patient, a baby, two months old, presented a nævus on the chest, which was at birth only a port-wine mark, but had rapidly grown into a vascular nævus nearly as large as that before described. The growth was encircled by a metal ring, and circulation to and from the part arrested. Alcohol was injected, as in the former case. But one injection was made, and this not only arrested growth, but caused its disappearance as a tumor. A month later it was level with the skin, and three-fifths of its surface had regained the normal color of the skin. There was no scar. The part which remained of a port-wine color spread a little during the next three months, but another injection or slight scarification would probably remove all the remnants of the nævus.

Encircling the growth by a ring is always to be recommended, as it confines the alcohol to the diseased part, and also makes it act more strongly. By contracting the vessels beyond the nævus, it prevents the entrance of clots into the circulation.

The syringe must, of course, be free from air when the injection is made. This method has the advantage of simplicity, and the necessary apparatus is already at hand. Dr. Holgate thinks that with ordinary care it is safe. He suggests its use in goitre.

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## SYPHILIS IN OLD AGE.

THERE are few subjects in medicine that can compare with syphilis in the richness and variety of its literature, yet singularly enough, the peculiarities of the disease in the aged seem to have passed comparatively unnoticed by syphilographers. The first monograph on the subject dates back only to 1878, when Sigmund, of Vienna, published the results of his study in this field; and since that time not more than three or four memoirs, as far as we know, have appeared. This must be due rather to the paucity of clinical material than to inattention on the part of students of syphilis, for the disease, when contracted in old age, while not remarkably different in its course from that of the same affection in younger subjects, yet presents certain modifications which are sufficiently striking to deserve study.

The latest contribution to the subject of senile syphilis is presented by Dr. Alexandre Renault, in the *Annales de Dermatologie et de Syphilographie* for March, April, and May, 1889. In this article the author presents a fairly exhaustive review of the subject, and points out quite clearly the modifications imposed upon the course and symptoms of the disease by the senile changes in the organism. As might be expected, since the system is already weakened by the advance of age, and is, therefore, less able to combat disease, syphilis is a much more serious matter in the declining years of life than it is in early manhood.

The differences are apparent even in the course and duration of the primary sore. The chancre has at first much the same appearance as that in persons of any age, but it has a remarkable tendency to ulceration. This is a point of some importance, since it is liable to lead to an error in diagnosis, especially if the chancre be extra-genital, for it may in such case readily be confounded with epithelioma, which is so common in old age. Cicatrization is also slow, many months sometimes elapsing before this process is complete. Another point worthy of notice is the tardiness in the appearance of adenitis. In the adult this makes its appearance usually within a fortnight, while in the aged its development is often a matter of six or seven weeks.

But it is during the secondary period that the peculiarities of senile syphilis are the most striking. The syphilitic fever is apt to be quite marked; indeed, the condition of the patient at this time is sometimes so grave as to give occasion to the diagnosis of typhoid fever, or of profound malarial infection. The syphilides of the secondary period are distinguished by their tendency to become confluent, by their obstinacy and resistance to ordinary therapeutic measures, by the frequency of relapses, and finally, by a remarkable proneness to assume the characteristics of tertiary eruptions. Cutaneous gummata are not uncommonly observed at this stage, and in general they appear much earlier in the aged than in adults. On the part of the nervous system the disturbances are often most marked. Disorders of sensation and motion, of the special senses of sight and hearing, and of the mental functions are commonly met with at this period. And, finally, a profound anæmia and a most pronounced cachexia are often seen, and indeed may be regarded as characteristic of the secondary stage of senile syphilis.

It is often difficult to separate the tertiary from the secondary lesions of syphilis in the aged, since there may be no interval of apparent cure between them, the tertiary accidents supervening directly upon those of the second stage. The cutaneous lesions of this period are characterized by their more general diffusion over the body, by a marked propensity to ulcerate, by persistence despite active treatment, and by a pronounced tendency to relapse after apparent cure. The nervous symptoms are similar in character to those seen in adult subjects, but they are more grave as a rule, and appear much earlier.

We have passed over many points of great interest, which are dwelt upon by Dr. Renault, owing to the necessity of being brief in our review. But we have drawn from him sufficiently to show that syphilis in the aged is an affair of much greater moment than it is ordinarily in adult life. It seems, indeed, as though nature knew that the subject of her displeasure had but a short time in which to pay the penalty of a violation of her laws, and that she was therefore impatient to crowd all the stages close together, so that her chastisement, though more brief, should be proportionately more severe.

# News of the Week.

Ex-Surgeon-General Joseph Beale, with relative rank of Commodore, United States Navy, died on September 23d, at his residence in Philadelphia, Pa. Dr. Beale was born in that city, December 30, 1814, and received his classical and medical education in the University of Pennsylvania, from which institution he graduated in 1836. He practised his profession for one year, at the end of which period he entered the United States Navy as Assistant Surgeon, and afterward rose to the position of Surgeon-General of the Navy, to which he was appointed in December, 1873. He was placed on the retired list in 1876.

Dr. Chrobak, of Vienna, has succeeded the late Professor Breisky in the Chair of Obstetrics and Gynecology at the University of Vienna.

The Cold-bath Treatment of Typhoid Fever in Australia.—Dr. Hare, of the Brisbane Hospital, at Sydney, states (*Medical Press*) that the cold-bath treatment of typhoid fever has been rigidly applied since July, 1887. The result has been a reduction of the mortality-rate from 14.8 to 7 per cent.

Doctors' Bills Unpaid.—A controversy has arisen between Health Commissioner Griffin, of Brooklyn, and the local Civil Service Commission over the action of the former in appointing twenty physicians to serve as sanitary inspectors during the summer months. They were selected by the Health Commissioner, and were to get $2.50 a day each. They put in their bills for eighteen days' work during July, and Commissioner Griffin approved them. They were forwarded to Auditor Rutan, who was about to audit them, when he received a letter from the Civil Service Commission ordering him to throw the bills out, as they were illegal. They were at once returned to Commissioner Griffin. The trouble lies in the fact that the appointments of the physicians should have been made legally from the eligible list of the Civil Service Commission. The Health Commissioner appointed whom he chose, and if the young doctors do not get their pay they may thank the commissioner.

Trying to Close a So-called Medical College.—Dr. L. D. Broughton, President of the New Jersey College of Medicine and Surgery, whose diplomas the Hudson County Board of Health refused to recognize a month ago, has made a complaint to the State Attorney-General, and asked for a mandamus compelling the Board of Health to issue certificates to the students who hold diplomas. The college is said to have received its charter in 1870 by a special act of the Legislature. It did not open a school until 1887, and the first students graduated from it this year. The counsel to the Board of Health says that the board must recognize the diplomas issued by the college, and it was against his advice that the board acted. Dr. Leonard J. Gordon, president of the board, says the fact that the college leans to eclecticism had nothing to do with the board's action. He says the board will fight any proceedings the college may bring to compel it to recognize the diplomas.

The Johns Hopkins Hospital: A Statement from President Gilman.—In view of the reports which have recently been published respecting the Johns Hopkins University, President Gilman authorizes the statement that the university will begin its next year on October 1st with unimpaired efficiency. Neither the salary of the president nor those of the professors have been cut down, and several new appointments have been made. The indications during the summer have pointed to the usual number of students, and the courses of instruction will be given as announced in the programme. As to the finances of the university, it is no secret that the income derived from the Baltimore & Ohio Railroad was cut off some time ago, but the accumulated income of former years, the income from investments outside of the railroad, the income from tuition (which amounted last year to nearly $40,000) are available. Besides all this, a number of generous persons have subscribed the sum of $108,000 to be expended as an emergency fund during the next three years. In addition, a new building, given by Mr. Eugene Levering, of Baltimore, is now going up. A lectureship in literature has been endowed by a gift of $20,000. By the death of John W. McCoy the university inherits at once his choice library of eight thousand volumes, and is the residuary legatee of his estate. The exact amount to be received from this source cannot yet be ascertained, but the most prudent estimates place it above $100,000, exclusive of the library. This gift is free from conditions. It is safe to say that within six months the Johns Hopkins University has received from these various sources nearly $300,000, and other gifts are expected. The national character of the institution is a strong reason why its work should receive important aid from a distance. It will thus be seen that no consideration need be given to alarming rumors, as the present efficiency of the university is assured for the next three years.

Dr. J. Emmet O'Brien, of Scranton, Pa.—The item in a recent issue of The Medical Record referring to an article on "Sensibility of Telegraphers" should have given the residence of the author, Dr. O'Brien, as Scranton, Pa., where he has long been one of its leading practitioners.

The Medical Department of the Paris Exposition.—In view of the prospect of a World's Fair being held in this country in 1892, the medical work of the Paris Exposition is of interest. Its report for the months of June and July, has been published. There is, it appears, a well-organized ambulance system. The stretchers are always ready to pick up patients, who are then attended to and conveyed to their own homes or to a hospital. The following statistics may be found interesting. The medical service had consumed during the two months of June and July 2 litres of ether, 20 litres of camphorated spirits, 60 litres of eau de mélisse (a kind of aromatic spirits), and 100 litres of carbolic water. Fifty mustard plasters were applied, and 300 hypodermic injections of morphia and of cocaine were practised on patients at the Exhibition. The number of dressings amounted to 1,780, of which 935 were for visitors. One workman died from accident; among the visitors there were six cases of sudden death. In this period of two months 18 workmen and 490 visitors were sent to the hospital.

# Society Reports.

## ASSOCIATION OF AMERICAN PHYSICIANS.

*Fourth Annual Meeting, held in the Army Medical Museum and Library, Washington, D. C., September 18, 19, and 20, 1889.*

FIRST DAY, WEDNESDAY, SEPTEMBER 18TH—MORNING SESSION.

THE Association was called to order at 10 A.M., by the President, DR. FRANCIS MINOT, of Boston.

The first business was the reading of the President's address.

### THE PROGRESS OF MEDICINE DURING THE LAST FIFTY YEARS.

The immediate causes of the great advancement of medicine were the growth of physiology and pathology, including bacteriology, and the improvements in clinical and laboratory teaching of the present day, which have led to a better acquaintance with the nature and causes of disease, to a more rational and successful therapeutics, and to the prevention by means of hygiene of a large number of diseases, including some of the most fatal. These means have been greatly aided by the progress of science in general, and by the conveniences of modern civilization, which enable observers from different countries to assemble together for interchange of knowledge and experience. A large share of medical progress is also due to the dissemination of knowledge by means of well-conducted journals, which enable thousands of practitioners who cannot leave their homes, to be constantly supplied with the most recent discoveries relating to pathology and the diagnosis and treatment of disease. The organization of this Association is particularly adapted for the progress of medical science, representing no one section of our country, but including practitioners from all parts of the United States and Canada, whose experience, knowledge, observation and ability are brought together for comparison and for mutual instruction.

The President reported the deaths of the following members: Drs. H. D. Schmidt, New Orleans; John C. Dalton, New York (honorary member); Robert Palmer Howard, Montreal; and Edward T. Bruen, Philadelphia.

DR. C. F. FOLSOM, of Boston, read a paper entitled

### THE EARLY STAGE OF GENERAL PARALYSIS.

The author first reported a number of cases illustrating the early stage of the disease, in which the motor disturbances were very slight, and might readily be overlooked and escape detection. The striking loss of muscular control or power, generally considered a part of the disease, was not found until a late period of the disease. The mental symptoms consist in impairment of a peculiar quality, often so slight as to be made out with difficulty.

The disease arises most commonly under prolonged strain, particularly when associated with unaccustomed excesses. At least two-thirds of the general paralytics have had syphilis. The relation of the disease with syphilis is too frequent to be accidental. The disease is, however, not a stage of syphilis, and is not benefited by specific treatment. The prognosis is probably not so hopeless as it is generally considered to be.

The common early treatment is harmful. Foreign travel is injurious. The only hope of at least partial cure or marked amelioration is in entire mental and physical rest.

#### DISCUSSION.

DR. ROBERT F. EDES, of Washington, reported the case of a man suffering now from pronounced general paralysis, in whom the first symptoms of the disease made their appearance some twenty years ago. If the anatomical view of general paralysis is accepted, he did not consider it strange that mental symptoms might precede the motor, depending upon the seat of the lesions.

DR. S. WEIR MITCHELL, of Philadelphia, was sure that certain cases of general paralysis began most markedly with motor trouble, while others began most decisively with mental conditions. In regard to syphilis, he agreed with the author, except that he had seen cases due to syphilitic disease in which cure followed specific treatment. He had also seen cure follow, in a small number of cases, where the treatment was begun in the early stages, but where the motor disturbance and the mental incapacity were sufficiently marked to render the diagnosis reasonably certain. In all of these cases there had been a total abandonment of all previous pursuits, with absolute mental and physical rest. He agreed with the author that foreign travel was often injurious.

DR. JAMES J. PUTNAM, of Boston, remarked that the fact that syphilis acts in this disease not by producing a direct lesion, but in an indirect manner, justifies us in looking for other causes of degeneration which might act in a similar manner. He asked if the reader had seen any cases in which chronic lead-poisoning was the apparent cause of the general paralysis, and related a case in which the imperfect and slow speech, the imperfect handwriting, and the expression of apathy and indifference, suggested a diagnosis of general paralysis. In this case there was, however, a history of drinking of water contaminated with lead, and there were certain local symptoms indicating lead-poisoning.

DR. WILLIAM PEPPER, of Philadelphia, believed that he saw these cases from a different stand-point than that of Dr. Folsom. They come to him as cases of dyspeptic lithæmic disturbance and the like, and are under his care for some time before symptoms leading to recognition are developed, sometimes for years before the paretic symptoms appear. He could not regard syphilis as in any way essential in the causation of general paralysis. In regard to the early stages of the disease, there was not one symptom mentioned by Dr. Folsom, or described by others as indicating the early stage, which he did not often find in cases of nervous lithæmia. There may be a grouping of these symptoms, or a delicacy on the part of the diagnostician, which will enable a finer and finer shade of these differences to be recognized, which does constitute a basis of diagnosis. He thought that general paralysis could be initiated by many disturbing, depressing, or irritating causes, and that in its early stages and slight degrees it was capable, not rarely, of being entirely cured. If these cases are permitted to go on with neglect of hygiene and with excesses, sexual, alcoholic, or business, a notable proportion will end with symptoms of general paralysis.

DR. C. F. FOLSOM, of Boston, said in regard to lead, that while he had seen cases in which this agent had produced symptoms similar to the initial symptoms of general paralysis, he had not seen a case in which the terminal symptoms of general paralysis had been produced. As illustrating apparent cure after specific treatment, he referred to a case in which the use of large doses of iodide of potassium apparently produced complete recovery, and the patient returned to his previous business. The symptoms after several months reappeared, and have continued to steadily progress. Whether this is the result in all such cases, he was unable to say.

DR. JAMES STEWART, of Montreal, read a paper entitled

### TETANY.

The details of the following case were referred to:

The patient, a male, aged forty, has been troubled during the past eight years with regularly recurring attacks of tetany. He served as a soldier during the American civil war. Suffered at that time and subsequently from chronic dysentery and malarial attacks. For upward of ten years he has been troubled with diarrhœa. Patient is tall, emaciated, and anæmic. The first subjective symptom of his tetany is usually double vision,

which is quickly followed by characteristic contractions of the flexor muscles of the hands. Occasionally, the flexors of the forearms and the adductors of the arms become spastic, muscles of the face almost constantly suffer, muscles of the lower extremities rarely. The affected muscles are the seat during the attacks of fibrillary twitching. The attacks often last several days (seven to twelve), unless terminated by the very free use of morphia.

The galvanic irritability of the nerves is found to be greatly increased, also the mechanical irritability of both nerve and muscle. Knee jerks exaggerated during attack, absent in intervals. Œdema of the hands and arms, with herpetic eruptions, frequently to be seen after particularly severe attacks. The quantity of urine excreted during attacks is usually normal in amount, and contains urea and indican in great excess. Patient has been under observation for more than three years, and it has been noticed, during the past two years, that he has been getting gradually dull and apathetic. It takes him a long time to answer questions, he complains of general numbness, his face and lips are swollen; symptoms closely resembling those seen in myxœdema.

Tetany may be divided into four varieties:

1. Epidemic or "rheumatic" tetany, common in Europe, but extremely rare in America. The course is acute and favorable.

2. Tetany from exhausting causes, as lactation, diarrhœa, etc. Course is chronic and favorable.

3. Tetany from removal of the thyroid glands. Course generally is usually either quickly fatal or chronic and incurable.

4. A form of tetany occurring in cases of dilatation of the stomach. Very fatal.

Infantile tetany is excluded from above division, as what is so frequently called tetany in infants is not that disease. No doubt, true tetany may occur in childhood.

*Experimental Tetany.*—When the thyroid gland is removed from cats, dogs, or monkeys, a condition very similar to the typical tetany of the human subject is observed, viz., fibrillary tremors and intermittent spasmodic contractions. Death usually follows in a week, and no change can be found to adequately account for it.

The fact that there is a great increase in the electric irritability of the nerves after the removal of the thyroid gland is strong evidence of the similarity of the tetany of man and animals. Of the many forms of muscular contractions seen in man, in none, with perhaps the exception of cholera, do we find any marked increase of the electric irritability of the nerves and muscles.

*Morbid Anatomy.*—No changes that in any way can be considered characteristic have been described.

*Nature of.*—All recent observers tend to confirm the conclusion of Schiff, that the tetany following removal of the thyroid gland is directly due to the loss of the gland, and that the thyroid gland in some way has a direct influence over the nutrition of the nervous system. It is difficult to explain how causes so diverse in their operation, as "rheumatic" influences, diarrhœa, pregnancy, lactation, and removal of the thyroid, can induce similar symptoms. It appears probable that impoverishment of the nerve-centres is one of the main factors in its production.

Dr. John T. Carpenter, of Pottsville, Pa., read a paper entitled

TETANY, AND A NEW THEORY OF ITS PATHOLOGY.

The author defined tetany as a nervous disorder accompanied by tetanic spasm of an intermittent character, which may extend from the extremities to the jaw, and be reproduced during its periods of intermission at will, by pressure on the track of the affected nerve-trunk, or over the blood-vessels obstructing the circulation.

A historical review of the disease was given. Tetany was regarded, not as a special disease, but as a sequel of precedent phenomena only. The affection was regarded as the result of septic absorption. The diminution of cases of tetany, coincident with the successful treatment and the prevention of septic poisoning, was regarded as an argument in favor of the connection between septicæmia and tetany. Cases illustrating this view were cited. The views previously held in regard to the pathology of tetany were discussed, and considered untenable.

DISCUSSION.

Dr. Francis P. Kinnicutt, of New York: I have seen but two cases of intermittent tetany, both occurring in patients with dilatation of the stomach. In one the dilatation was due to pyloric stricture, resulting from cancer; in the other there was non-malignant stricture. In both of these cases the conditions were favorable to absorption of poisonous matter.

Dr. F. T. Miles, of Baltimore, reported the case of a young woman, twenty-two years of age. She had suffered for six or eight years from dilatation of the stomach; had vomited acid matter, but never offensive; had several times had numbness of fingers and toes. She suffered her first attack of tetany twenty-four hours before her death. In this case the stomach had never been washed out.

Dr. A. Jacobi, of New York, had been struck with the stress laid by the readers upon sepsis as the cause of tetany. In one of the cases reported by Dr. Stuart, which he thought was due to absorption of putrid material, the stomach was twisted, and Dr. Jacobi suggested that the intermittent contracture was due to nervous influence, resulting from the twisting, rather than to absorption. He did not doubt that there were cases in which septic absorption produced such symptoms, but when we recall the fact that the contracture is temporary, we must conclude that the influences giving rise to that attack were also temporary. Many of these cases are, I think, the result of nervous irritation. In some of the cases reported, I should attribute the condition to anæmia.

Dr. James J. Putnam, of Boston, remarked that the reported cases of tetany showed such a variety of infectious sources, that it seemed hardly probable that they should act in such a similar manner, unless there was something else behind. Two or three things are to be considered: First, the influence of habit—the disease set up by a variety of causes may continue as a result of habit; second, the suggestion that in such cases of disordered action we have to deal with an over-sensitiveness of physiological arrangement is important. In these conditions we have the disordered manifestation of what is really a function, but one which is not ordinarily recognized, as it has no independent existence. It would seem that in the absence of further knowledge with regard to infection, and the manner in which this infection, arising from various sources, may act, we should insist upon the possibilities of explanation which are presented to us by what we know of the physiology, and disordered physiology, of the nervous system, in attempting to explain conditions met with in this and similar diseases.

Dr. James Stewart, of Montreal, said in connection with the influence of peripheral irritation, that in the cases of dilatation of the stomach where tetany had caused death, the symptoms came on a few hours after the stomach had been washed out. This would point to irritation rather than decomposition as the active cause in this class of cases. There are many other cases where infection could not enter.

Dr. John T. Carpenter, of Pottsville, Pa., said, in regard to anæmia as the cause of tetany, that we should have to go back of the anæmia to the cause that produced it. He knew of no cause that would produce anæmia so surely as septic absorption.

Adjourned.

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Afternoon Session.

Dr. A. B. Ball, of New York, read a paper entitled

THROMBOSIS OF CEREBRAL SINUSES AND VEINS.

The author first referred to the influence of the following factors in the production of thrombosis: 1st, blood stasis;

2d, vessel lesions; and 3d, blood changes. The anatomical conditions in the sinuses that favor thrombosis were described at length; and a number of cases cited of marantic thrombosis of cerebral veins and sinuses in chlorotic girls.

The symptoms were next considered. Much importance has been attached to distention of external veins collateral to the internal veins supposed to be affected, giving rise to hemorrhages and œdema. These signs are frequently absent, and may be due to other conditions. The mobility of the symptoms has been considered of value. In these cases the cerebral symptoms undergo strange alternations, not seen usually in other affections. Active delirium is exceptional. The depression continues, but alternates with a certain amount of improvement. Fever is absent at first, and, if present, is to be attributed to complicating conditions. Paralytic symptoms, of varying extent, are usually present. With the exception of the variation in degree, the paralysis does not differ from paralysis from other causes.

DISCUSSION.

DR. WILLIAM OSLER, of Baltimore, exhibited two specimens illustrating the conditions described by Dr. Ball. The first specimen was one of extensive thrombosis of the lateral sinus, occurring in a man who died from phlegmonous erysipelas of the cheek. There were no special symptoms in that case.

The second specimen was from a woman dying of consumption. It was thought that gradually increasing coma, and the onset of cerebral symptoms, were supposed to be due to basilar meningitis.

DR. A. JACOBI, of New York, enumerated certain additional aiding causes. The first was a disproportion between the white and red blood-corpuscles. The second cause was the relative absence of muscular tissue in a number of the veins. A third cause was absence of water in the blood, often due to the withholding of sufficient fluid in the diet of patients. The last cause referred to was weakness of the heart. When in exhaustive diseases the heart is allowed to become feeble, thrombosis, with all its bad results, must be expected. It is certainly a good therapeutic measure to stimulate and strengthen the heart in every disease that will last long, or tends to terminate in exhaustion.

DR. WILLIAM H. WELCH, of Baltimore, said there is one point of great force in explaining the production of thrombosis, that is, the possibility that there is some form of intoxication analogous to that produced experimentally by various substances, such as the fibrin ferment. Under such circumstances there is almost instantaneously extensive thrombosis, wherever the ferment reaches. Pathologists are aware of the frequency with which thrombi, usually of a mixed character, are found in the cerebral sinuses, particularly the superior longitudinal sinus, in cases that have presented no symptoms during life.

DR. SAMUEL C. BUSEY, of Washington, D. C., read a paper entitled

THE EFFUSION OF CHYLE AND OF CHYLE-LIKE, MILKY, FATTY FLUIDS INTO SEROUS CAVITIES.

The object of the paper was to present the subject of effusion of chyle, chyle-like, and fatty fluids into serous cavities. It was limited to the effusion of such fluids into the cavities of the pleura, peritoneum, and tunica vaginalis. The subject of traumatic injuries of the absorbent vessels seems to have been peculiarly attractive to many of the older writers. Ruysch, as early as 1665, drew attention to wounds of the lymphatic vessels. The reported cases of effusion of chyle and milk-like fluids into the pleural and peritoneal cavities, including the doubtful cases, do not exceed forty-three, and these cases cover a period of one hundred and ninety years. Nevertheless, twenty-three cases of effusion of chyle and chyle-like fluids into the abdominal cavity have been observed during the present century—fifteen since 1850, and thirteen during the last and present decades. The increasing frequency of the occurrence is thus clearly shown.

*Effusion into the Pleural Cavities, Chylo-thorax.*—Of this, including the doubtful cases, there have been ten cases reported. In five of these the chyle poured directly from the thoracic duct. The diagnosis in these cases can only be made by evacuation and examination of the fluid. The prominent symptoms are dyspnœa and accumulation of fluid in one or both cavities. The prognosis is unfavorable and the treatment expectant.

*Effusion into the Tunica Vaginalis Testis.*—The case of galactocele reported by Vidal (de Cassis) seems to have been the first observation of this class of effusions. In two of the reported cases the patulous orifices of the vessels from which the lymph exuded were found. Since 1885 there have been reported in this country thirteen cases in which filaria were found, and two of these were cases of lymphocele. It has not been shown, however, that filaria are present in every case of lymphocele. It is conceivable that adenitis, gonorrhœal lymphangitis, or other conditions which obliterate the permeability of neighboring and connecting glands, might cause stasis of lymph and dilatation and rupture of lymph capillaries and plexuses, with which the serous membranes are so richly supplied. The opinion of those who have had the best opportunity to study the relation of filaria to disease in general seems to be that of Sir Joseph Fayres, that "it has been shown that disorders of the lymphatic system are most frequently associated with, if not caused by, the filaria. The recent invasion of portions of the subtropical belt of this country by the filaria, and the reports of cases of disease with which the parasite has been so uniformly associated, together with the fact that the mosquito has been proven to be its intermediate host, present considerations of the highest importance to the profession and general public. Some of the cases have been cured by injection of iodine, others have been cured by dissecting back the vessels and tying the bundle *en masse* with a silk ligature.

*Chylous and Oily Ascites.*—A tabulated statement arranged chronologically, presenting a condensed summary of the reports of cases of chylous and oily ascites, was given. The number of cases reported was thirty-three; primary rupture occurred in but five cases. Chylous ascites may be the secondary result of a variety of morbid conditions which directly or remotely obstruct the flow of the chyle through the lacteals, receptaculum, or thoracic duct, impede its exit into the left subclavian vein, or retard the current of blood in the left subclavian vein, right side of the heart, or lesser circulation. The relation of puerperal conditions to the effusion of chyle are not susceptible of explanation. In five cases the fluid found in the peritoneal cavity was associated with tuberculosis, and in four it is stated that the peritoneum was more or less studded with tubercle. No perforation or rupture of chyle-conveying vessels was found in any of these cases. The symptomatology of effusion of chyle into the peritoneal cavity is not sufficiently distinctive to differentiate such cases from ordinary ascites, and a diagnosis is only possible after examination of the evacuated fluid. Of the thirty-three cases, nineteen died, nine recovered, and in five the result is not stated. Of the twenty-two cases of chylous ascites proper, twelve died, five recovered, and in five the result is not stated. Meagre and unsatisfactory as are the clinical details of these cases, they point to two conclusions: first, that a free and unobstructed channel of communication between the venous system and the chyle-conveying vessels is essential to the proper nutrition of the body and preservation of life; and second, that death following the partial or complete obliteration of this communication is the result of inanition.

In seventeen of the thirty-three tabulated cases, tapping was practised, and, in most of the cases, repeated several times. Six of these recovered. In two laparotomy was resorted to, with recovery of both patients. One was a case of intact retention cyst, and the other was probably a ruptured cyst. As a medical resource, paracentesis is of questionable value. The treatment is mainly directed to the prolongation of life. The causative condition may in

some cases be amenable to medicinal treatment, but in most cases some surgical procedure might offer a prospect of cure. In filarial cases the treatment applicable to such would be admissible. Sonsina thinks that astringents, such as gallic acid and tincture of the chloride of iron, with rest, tonics, and proper alimentation, are useful. Lancereaux thinks that the parasitic forms of lymphatic diseases are curable. He has found mercurial inunction in the region of the affected gland, in connection with hydropathy, of service. He suggests the injection of parasiticides into the affected glands for the purpose of destroying the female adult worm.

DISCUSSION.

Dr. William Osler, of Baltimore, said that in ordinary post-mortem work it was not infrequent to meet with varices of the chyle vessels of the mesentery covering the walls of the intestine. Sometimes there are extravasations which may form large chylous cysts.

With reference to chyluria, he was positive that there was a non-parasitic form. He had made thorough examinations in one such case, and failed to find filaria. On post-mortem examination nothing was discovered. Also, in a case of lymph scrotum, he had examined the fluid and the blood, and had found no embryos. He laid a great deal of stress upon these cases, as it is generally stated that these conditions are always parasitic.

Dr. William H. Welch, of Baltimore, exhibited a specimen of chyle removed from the abdominal cavity of a boy twelve years of age. He described the chemical and microscopical characters of the fluid, and dwelt upon the importance of distinguishing between chylous and fatty hydrops.

Dr. J. F. A. Adams, of Pittsfield, Mass., read a paper entitled

SUBSTITUTES FOR OPIUM IN CHRONIC DISEASES.

The disadvantages attending the use of opium are: 1, In an overdose it is a poison; 2, in ordinary doses its benefits are largely offset by various functional derangements; 3, its use involves the danger of the opium habit.

*Remedies that may be Substituted for Opium for the Relief of Pain.*—The antipyretics—antipyrine, acetanilide, phenacetine, and exalgine—have well-grounded claims to be regarded as rivals of opium. They are, however, less certain and less prompt, particularly when pain is very violent. Antipyrine, in five- to ten-grain doses, had been found valuable as an analgesic, particularly in headache, neuralgia, and rheumatism.

Acetanilide he had found less active than antipyrine; he used it in doses of seven or eight grains. He had found it particularly serviceable in lumbago and dysmenorrhœa. In the latter condition one or two doses had afforded prompt relief.

Salicylic acid and its sodium salt should be included on account of their marked effect in the relief of pain in rheumatism, particularly its acute form.

*Substitutes for Opium to Induce Sleep.*—Paraldehyde is an excellent hypnotic, although rather uncertain. Hydrate of amyl is generally preferable to paraldehyde, being more reliable as well as more agreeable. Sulphonal is more extensively employed than either of the above, and is applicable to all forms of insomnia.

*Chronic Diarrhœa.*—It is probable that no remedy has been used in this affection so largely as opium. The effects of this mode of treatment have been far from satisfactory. Recently the author had treated these cases antiseptically, with far better results. The remedy chiefly used has been salicylate in five- to ten-grain doses, three or four times a day. He had also used salol with success.

We now have remedies which may be used in place of opium in all chronic affections, where formerly this remedy was our chief reliance. For producing sleep, and for the treatment of chronic diarrhœa, we have certain hypnotics and antiseptics which are not only as efficient, but so much more satisfactory, that we may practically lay aside opium, to be used only on rare occasions. As an analgesic opium still stands at the head of the list for promptness and certainty, but the antipyretics mentioned are probably capable of replacing it in the majority of chronic cases, and the relief afforded by these remedies is attended with less disturbance of the system than that induced by opium.

DISCUSSION.

Dr. G. M. Garland, of Boston, referred to the value of the fluid extract of gelseminum as a substitute for opium. In frontal headaches it has an admirable effect. It is used also with advantage in difficult and painful menstruation, and certain forms of neuralgia. As a simple hypnotic gelseminum answers well in cases of temporary congestion with insomnia and headache. In hysterical conditions, this agent will often induce sleep in a short time. The drug is given in doses of five to ten drops every half-hour, until the desired effect is obtained, or its physiological effect is produced in diplopia and plasis. These appear sufficiently early to serve as a warning.

Dr. Israel T. Dana, of Portland, reported two cases of opium habit occurring in a man and wife. The husband was a young man who had for some time given hypodermic injections of morphia to a patient dying of cancer. He subsequently broke his leg, and remembering the effect of the injections in the case of cancer, he tried them on himself. The result was so exhilarating, and as he "could not see why his wife should not have a little of the fun," he began giving her the injections, although she was perfectly healthy. In this way the habit was induced, and when admitted to the hospital each one was taking six grains of morphia daily.

Dr. M. G. Dadiman, who had practised in Asia Minor and Constantinople, stated that he had never seen a case of opium habit in his practice in these places.

Dr. D. W. Prentiss reported a

REMARKABLE CASE OF SLOW PULSE,

ranging from thirteen to forty per minute, continuing for two years, without organic heart disease, in a man of fifty-seven years, in otherwise good health. The cause was supposed to be tobacco poisoning, the man being an inveterate smoker, or malarial poisoning, or perhaps both. The report was supplemented by a review of such similar cases as the literature of the subject affords. The principal interest in the case turns on the pathology—whether the slow pulse is due to over-stimulation of the inhibitory nerve, or to paralysis of the sympathetic, or to lesion in the nerve-centres. The treatment in the case has been addressed chiefly to stimulation of the sympathetic. The patient was presented to the inspection of the Association.

Adjourned.

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SECOND DAY, THURSDAY, SEPTEMBER 19TH—MORNING SESSION.

Dr. Frederick P. Henry, of Philadelphia, read a paper on the

RELATION BETWEEN CHLOROSIS, SIMPLE ANÆMIA, AND PERNICIOUS ANÆMIA.

The discussion of the relation between chlorosis, simple anæmia, pernicious anæmia, etc., may be divided into three heads:

1. Are they separate diseases?
2. Are they of kindred nature?
3. Are they different stages of one affection?

Pernicious anæmia is first considered, because the determination of its status is of fundamental importance. It is admitted by all that the clinical features of this disease are common to a number of affections, especially cancer and atrophy of gastric glands; but those who argue most forcibly in favor of its independent nature exclude from the category of pernicious anæmia all cases in which an anatomical lesion of any organ is found. This appeared to the author unscientific, for an independent disease is one

which rests upon a constant anatomical basis or is invariably produced by the same specific agent. Hunter has endeavored to establish pernicious anæmia as an independent disease by the demonstration of an excess of iron in the liver in cases of that affection. He regards this as the essential anatomical feature of pernicious anæmia. The work of Hunter is of great value, and certainly demonstrates the existence of an excessive hæmolysis in that disease. In the author's opinion, however, this excessive hæmolysis is a consequence of defective hæmogenesis, for certain facts show the red corpuscles of pernicious anæmia to be abnormally weak and perishable. Chlorosis is universally admitted to be due to defective hæmogenesis, and therefore he regarded it and pernicious anæmia as closely related affections. Transitions from the one affection to the other had also been observed by himself and others.

Conclusions: (1) That pernicious anæmia is a process, not a disease; (2) that it is closely related to chlorosis; (3) that it may be the terminal stage of other diseases, and especially of cancer of the stomach and atrophy of the gastric glands.

Leucocythæmia and Hodgkin's disease, in that they are always associated with lesions of the blood-making organs —spleen, lymph-glands, bone-marrow, etc.—are independent diseases, or, rather, different stages of the same disease, for several cases are recorded in which an undoubted transition from one to the other has been observed.

Dr. F. Forcheimer, co-referee, of Cincinnati, read a paper entitled

THE RELATIONS OF ANÆMIA TO CHLOROSIS.

The speaker first referred to the confusion which existed in regard to the definition of the two diseases. Immermann states that we are justified in saying that anæmia is that condition in which there is a diminution of red corpuscles as well as of the albumins of the plasma in the blood (hypalbuminosis). Strümpell considered that "the essential element in anæmia is therefore a diminution in the number of red corpuscles or so-called oligocythæmia," and states further that "oligocythæmia is not invariably accompanied by a diminution in the amount of serum-albumin (by which he means plasma—hypalbuminosis)." Going on, it is found that anæmia or oligæmia vera really means a diminution of the quantity of the blood, and that this condition can be divided into hydræmia, oligocythæmia, oligæmia sicca, and oligæmia hypalbuminosa. We have three representative definitions; the one broad and general, including a diminution of any one or all of the constituents of the blood; a second, in which hypalbuminosis and oligocythæmia are the principal, if not the only, factors; and a third, which makes oligocythæmia alone the characteristic feature. From a purely practical stand-point the latter seems the best.

The same confusion in regard to definition is met with in a consideration of chlorosis. Duncan (1867) was, however, probably the first to make the distinctive feature, oligochromæmia, characteristic for chlorosis—that is, in chlorosis we find the individual red corpuscle deficient in hæmoglobin. Unfortunately for this definition, the term chlorosis is to be looked upon as an essentially clinical one; it is not going too far to state that by far the great majority of reported cases of chlorosis are not chlorosis at all. Another difficulty is that both oligocythæmia and oligochromæmia may occur in the same individual, so that the term chloranæmia is justified by observation of existing conditions. It is more than probable that anæmia is a forerunner of chlorosis in a great many instances, and possibly a number of cases occur in which there is a combination of both conditions.

Almost every cause put down for anæmia will hold good for chlorosis. Sex, age, a peculiar composition of the blood, and certain vascular anomalies are held to be especially characteristic for chlorosis. The two latter are the only ones to be found in chlorosis. The process of sexual development is looked to as the time of most common occurrence of chlorosis. This age also produces a great number of cases of anæmia; but children and old people are subject to anæmia and practically excluded from chlorosis. The greatest number of cases occur between the ages of fifteen and twenty-five years, decidedly after the time of first menstruation. Furthermore, an anæmic constitution is a strong predisposing cause for chlorosis.

The clinical characteristic of chlorosis lies in the peculiar changes in the blood. In anæmia the red corpuscles, as well as the albumins of the plasma, are reduced in quantity, and frequently there is production of a greater number of smaller corpuscles (microcytes). As a result of the reduction of the number of red corpuscles the plasma is correspondingly reduced in quantity. In pure chlorosis the number of red corpuscles is not diminished, and a tendency to the production of larger red corpuscles (megalocytes) is especially well-marked. These changes are, however, not sufficiently characteristic to establish a diagnosis. It is also found that the amount of plasma in each corpuscle is diminished. It has been said that in anæmia there is always hypalbuminosis, while in chlorosis this is absent, but this has not yet been positively proven.

One respect in which chlorosis is said to differ materially, if not absolutely, from anæmia consists in the pathological changes, first described by Virchow. These are narrowing of the lumen of the aorta and larger arteries as well as thinning of their walls. The heart is sometimes small, sometimes hypertrophied. This view would permit us to state that chlorosis is always congenital, in some cases latent for years, while anæmia, in most cases, is acquired. Many objections have been urged against this view.

The relation of the symptoms of anæmia to chlorosis depends upon the condition of the blood and the anatomical substrata. Given a case of anæmia in which there is only a reduction of plasma as a result of oligocythæmia, and a case of chlorosis in which there is a reduction of plasma as a result of oligochromæmia, and metabolism in both these cases will be approximately the same; but if in anæmia we have oligocythæmia as well as hypalbuminosis, which is said to coexist in the majority of cases, the metabolism must be different from that of a pure case of oligocythæmia. As a result of reduction of plasma there is simply reduction in the process of oxidation; at the same time the waste products are carried off and sufficient albuminous food is carried to the tissues by the plasma of the blood, which is unchanged. Hypalbuminosis and oligocythæmia produce an entirely different result; we have the same factor, suboxidation, but we have in addition deficiency of supply. In mild cases of anæmia, there is procuced a loss of weight; in severe cases, the condition called marasmus. In chlorosis very little, if any, loss of weight occurs; very frequently the opposite condition is brought about by too great supply and by the presence of too much $CO_2$, preventing decomposition of fats. When anæmia is associated with chlorosis, we have a very unfortunate combination, especially if there is a great amount of hypalbuminosis.

Unless we believe that the anatomical lesions of Virchow belong to chlorosis, there exists no difference between the symptoms of chlorosis and anæmia.

The therapeutic relations of the two diseases must be considered. While the indiscriminate use of iron in anæmia must be deprecated, yet upon the whole iron is just as much looked upon as a specific in anæmia as in chlorosis. Where in anæmia we try to remove the cause and institute causal treatment, we are satisfied in chlorosis with removing that symptom which is the essential of the disease. It has been repeatedly demonstrated that the removal of this essential symptom is followed temporarily by complete recovery. Whereas, in anæmia, treatment is followed by complete recovery or complete failure, iron in chlorosis will always result in amelioration, even if the tendency to relapse cannot be removed. There are few cases of chlorosis, even those with the lesions of Virchow,

that are not benefited by the administration of iron in sufficient quantity. In a great many cases of anæmia, the use of iron would be followed by negative, or by bad, results.

DISCUSSION.

Dr. William Osler, of Baltimore, took issue with Dr. Henry in regard to chlorosis. He held that chlorosis is absolutely distinct from pernicious anæmia, and for the following reasons: 1. The sex; he had never seen chlorosis in the male. 2. The pathological conditions; he regarded thus the hyperplasia of the heart and great vessels as a specific anatomical distinction of a certain number of cases. 3. The characters of the blood; he considered the diminution of the percentage of hæmoglobin a distinctive feature of chlorosis. 4. Curability; although in chlorosis there is a tendency to relapse, each given attack can be cured if sufficiently large doses of iron are employed.

Dr. Francis P. Kinnicutt, of New York, agreed with Dr. Osler as to the lack of relation between chlorosis and pernicious anæmia. He had never seen true chlorosis in the male. All his cases of pernicious anæmia, on the other hand, with one or two exceptions, had occurred in males. He agreed with Dr. Henry in regard to the relationship between Hodgkin's disease and true leukæmia. He reported a case which came under his observation, with typical symptoms of Hodgkin's disease. At this time the proportion of white corpuscles to red was normal. The spleen and liver gradually enlarged, and two years later, at the time of the patient's death, there was one white corpuscle to five or six red.

Dr. W. W. Johnston, of Washington, thought that a study of certain anæmias which are met with in women will throw light upon the association of anæmia with diseases of the intestinal glands and gastric tubules. The explanation of the chronic anæmias of parturition is probably the continued pressure upon the intestinal tube, causing a long starvation lasting nearly a year. This seems to produce an actual organic change in the intestinal glands. Several illustrative cases were cited.

Dr. William Pepper, of Philadelphia, agreed with Dr. Osler in regard to the relation between true anæmia and chlorosis, and progressive pernicious anæmia so called. He was not prepared to admit the analogy between true chlorosis and progressive pernicious anæmia. The conditions of the blood are widely antagonistic in these two affections. The clinical differences are also very marked. In the present state of knowledge it is probably wiser to consider essential anæmia as an independent affection.

Dr. Frederick P. Henry, of Philadelphia, thought that the definition of chlorosis given by Dr. Osler could not be maintained; that is, that there is always a diminution of hæmoglobin with a nearly normal number of red corpuscles. The arguments that he had advanced were based entirely upon personal observations. While chlorosis is readily relieved by treatment in the early stages, yet, if it is neglected, the chlorosis may become more intense and may present the appearances of pernicious anæmia.

Dr. S. Weir Mitchell, of Philadelphia, read a paper entitled

SUBJECTIVE FALSE SENSATION OF COLD, CONSIDERED AS A SYMPTOM.

The speaker had met with many cases where a feeling of cold is complained of in members which do not present any objective changes in temperature. These may be placed in three classes: 1, those due to a central cause; 2, those due to neuritis; 3, those whose origin is at present inexplicable, or due to hysteria. A number of cases exhibiting this symptom to an extreme degree were reported. In the first case a marked sensation of cold involving the left side of the body followed an injury to the head. Three or four cases were referred to coming in the second class. The sensation of cold involved the posterior part of the legs, the back, or buttocks. In all these cases there was either neuritis at the time, or it developed subsequently. When this symptom is noted, neuritis may be expected. Two cases belonging to the third group were described. One was an elderly individual with no sign of hysteria, the other was a case of a young woman with marked hysterical symptoms.

DISCUSSION.

Dr. James J. Putnam, of Boston, had frequently seen the coldness spoken of in chronic spinal disease and in neuritis, and described such a case in a man with chronic sensory neuritis.

Dr. F. T. Miles, of Baltimore, regarded this sensation of coldness as a very important symptom of neuritis, and reported a case associated with acute neuritis of the ulnar nerves.

Dr. G. M. Garland, of Boston, read a paper on

GASTRIC NEURASTHENIA.

The author first reviewed Leube's observations on dyspepsia nervosa, and presented a category of the gastric neuroses. A case of anorexia nervosa occurring in a woman sixty-three years of age was reported. The woman was of feeble constitution. She digested her food without consciousness of the process, and her bodily functions were practically normal in every way, except that she suffered from anorexia. Three cases of vomitus nervosus were then reported.

Case I.—Miss S—— began, at the age of two years, to have certain attacks of vomiting. These recurred at certain intervals until the time of her death. The attacks lasted twenty-four hours, and it required a week for the child to recover her strength. At the age of twenty she began to have excessive muscular twitchings with the attacks. Two years later she began to have severe headaches. These gradually merged into one steady ache. January 1, 1884, the author saw the patient suffering from intense headache and slight twitching of arms and legs. Vomiting appeared the next day, causing intense burning of the throat from the intensely acid character of the matters vomited. After four days she gradually improved, and entirely recovered.

November 12, 1884.—The patient was again seized with headache. November 15th.—Vomiting and twitching began. She gradually improved until December 2d, when all the symptoms returned and continued until her death, December 13th. Urine was normal until a few days before death, when it contained a trace of albumen, but no casts. At the autopsy no marked organic change was found in any part of the body.

Case II.—Miss S——, aged twenty-two, first seen September 19, 1888. She was in bed with headache, poor appetite, constipation, and weakness. Pulse, temperature, and urine normal; some nausea. Vomiting appeared in a few days. She was fed exclusively by the rectum for three weeks, but the vomiting persisted, and there was severe burning along the entire œsophagus. At times the urine was scanty, but never contained albumen. She gradually improved, but is not as strong as before her illness.

Case III.—Miss D——, aged forty-three, had been subject to bilious headaches. During the summer of 1888 she had a severe attack of vomiting, and she was very ill for several weeks. During the following September, as a result of anxiety, her appetite left her and the nausea returned. She, however, did not vomit.

The conclusions drawn from the above cases were: 1. All the women have been of dark complexion. 2. They have not been of the so-called hysterical temperament. 3. Feeding by the mouth was abandoned in every case, and rectal enemata were necessary. 4. None of the drugs usually potent in soothing a nauseated stomach were of any avail. Morphia subcutaneously was the only remedy that was of benefit. 5. The vomitus caused great discomfort along the throat, and in one case caused severe glossitis. In connection with the hyper-acidity, he referred to certain

cases of acid vomiting described by Rossbach, and designated nervose gastroxynsis. The acidity of these cases depends upon excessive secretion of hydrochloric acid, and is independent of the presence of food in the stomach.

Adjourned.

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AFTERNOON SESSION.

The discussion of Dr. Garland's paper was taken up.

DR. S. WEIR MITCHELL, of Philadelphia, said that in all cases of neurasthenia, where there are great complaints of gastric and intestinal difficulty, the presence of hypochondriacal conditions must constantly be considered. It is rare for grave cases of neurasthenia to present themselves without some abdominal symptoms. In regard to anorexia nervosa, he thought that in the majority of cases a background of hysteria would be found. It is suspicious that this condition is never seen in men.

DR. WILLIAM PEPPER, of Philadelphia, asked in what respects, other than the invariable and extreme acidity of the matters vomited, these cases differ from those that have been described under the head of cyclic and recurrent vomiting. He had seen many such cases and some like the fatal case reported. In some of the cases the vomited matters were extremely acid. He had had these matters examined chemically with the hope of finding some leucomaïne, but so far with negative results. In regard to treatment the only remedy that had been of benefit had been antipyrine. In one or two cases this has apparently stopped the attacks.

DR. W. F. WHITNEY, of Boston, presented specimens from two cases of cretinism.

DR. JOHN H. MUSSER, of Philadelphia, read a paper entitled

PRIMARY CANCER OF THE GALL-BLADDER AND DUCTS.

The speaker, after describing two cases of this affection that had come under his observation, reviewed the cases that had been reported and presented the following conclusions:

Primary cancer of the gall-bladder is not so rare as is generally believed. It occurs in the female nearly three times as often as in the male. A large number, fifty-seven per cent., of the cases occur under the age of sixty. Gall-stones are an exciting cause, especially in persons predisposed to the affection. The organ is generally not much enlarged, save as the result of secondary processes. Metastasis is not wide-spread. By continuity of structure neighboring organs are involved. Adhesions to adjacent organs, with ulceration and perforation, are not uncommon. Pain, jaundice, and the presence of a tumor are the most common phenomena. With them are associated cachexia, vomiting, constipation, diarrhœa, and ascites. Pain was present in sixty-two per cent. of the cases, at first ill-defined, then becoming localized to the right hypochondrium, and lancinating in character. Jaundice was present in sixty nine per cent., gradually increasing in degree. In some cases, however, it was intermittent. Tumor was noted in sixty-three per cent. The tumor was hard, firm, painful, and generally movable with respiration. The progress of the disease is always continuous. Some extraordinary cases are reported in which there was temporary cessation in the progress of the disease. Death results from exhaustion, frequently from peritonitis, in some cases from metastasis to other organs, in some from biliary obstruction. In eight cases death was due to cholæmia. The duration of the disease is short, the average being six and two-third months. The progress is rapid after complete occlusion of the biliary passages, or evidence of inflammation of the biliary passages has developed.

DR. HENRY FORMAD, of Philadelphia, read a paper on

THE ANATOMICAL AND PHYSIOLOGICAL RELATIONS OF LESIONS OF THE HEART AND KIDNEYS.

The paper was based upon the post-mortem study of three hundred cases, observed in public and private practice.

DR. P. G. ROBINSON, of St. Louis, read a paper entitled

THE CONTAGIUM OF DIPHTHERIA.

The subject is one which merits our most earnest and continued study, because of the prominent place it occupies among the prevailing causes of annual mortality, and because of the diversity of opinion which is entertained in regard to its etiology, pathology, and treatment. The disease has become familiar to the practitioner only within the last generation, although traced historically to a very remote period. It prevails very generally throughout this continent, and constitutes one of the chief and most constant causes of mortality, which amounts to nearly one hundred and twenty five per thousand of the population of the United States, and of cases reported the percentage of deaths is from thirty to thirty-five.

Diphtheria is an acute infectious disease, doubtless due to a living organism (microbe) the exact identity of which cannot yet be regarded as settled. Primarily a local affection, the system becomes secondarily and generally infected through absorption of a poison generated at the primary and localized seat of inoculation. The modes of infection are numerous, the contagium being directly transferred by contact, in a dry state, through the air for limited distances, in foul clothing, in polluted food and drink, milk probably being a prolific source of infection.

The most difficult problem to solve is that which relates to the conditions most favorable to the growth and development of the germs and the propagation of the disease.

While, strictly speaking, diphtheria can hardly be called a filth-disease, since it prevails often to a very limited extent in those localities whose hygienic surroundings are apparently the worst, yet certain kinds of filthy accumulations, as the ordure of animals, notably the refuse from cow-sheds and dairies, seem to furnish the most favorable conditions for the culture of this particular germ. Until this problem can be solved and the life-history and habitat of the diphtheritic germ is understood, no definite plan can be formulated for the arrest of the contagion nor for the hopeful treatment of the disease.

Adjourned

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THIRD DAY, FRIDAY, SEPTEMBER 20TH—MORNING SESSION.

The following officers were elected:

*President*—S. C. Busey, of Washington; *First Vice-President*—William Pepper, of Philadelphia; *Second Vice-President*—Henry U. Lyman, of Chicago; *Recorder*—I. Minis Hays, of Philadelphia; *Secretary*—Henry Hun, of Albany; *Treasurer*—W. W. Johnston, of Washington; *Member of Council*—G. Baumgarten, of St. Louis; *Representative on Executive Committee of Congress of American Physiciaus and Surgeons*—William Pepper, of Philadelphia.

MEMBERS ELECTED.

William G. Thompson, William H. Thomson, J. West Roosevelt, of New York; Charles Carey, Charles G. Stockton, of Buffalo; Victor C. Vaughn, Heneage Gibbes, of Ann Arbor; Charles W. Purdy, of Chicago; Starling Loving, of Columbus, O.; W. H. Geddings, of Aiken, S. C.; William C. Dabney, of Charlottesville, Va.; B. F. Westbrook, of Brooklyn; Henry P. Walcott, of Cambridge, Mass.

The date of the next meeting to be between May 20, and June 15, 1890.

DR. JAMES J. PUTNAM, of Boston, read a paper entitled

A SUPPLEMENTARY INQUIRY INTO THE FREQUENCY WITH WHICH LEAD IS FOUND IN THE URINE.

The paper embodied further researches as to the frequency with which traces of lead are found in the urine of persons in good health, or not presenting the classical symptoms of lead-poisoning; and discussed the propriety

of enlarging our clinical conception of that disease. A table was shown, in which the results of the present investigation were combined with those reported upon two years ago, which may be summarized as follows: The urines of sixty-eight persons, either presenting no symptoms (healthy medical students) or only symptoms of specific or local disease (phthisis, pleurisy, local injuries, etc.), were found by Dr. A. M. Comey and Dr. C. P. Worcester to contain lead in the proportion of about seventeen per cent.; while those of another group of one hundred and twenty-five persons, presenting various symptoms of disease, such as it was thought might possibly be due in part to lead-poisoning, contained lead in the proportion of fifty per cent. The largest sub-group of this latter class embraced thirty-six cases, not strictly homogeneous, but made up of chronic or subchronic affections of the spinal cord and peripheral nerves. One (typical) fatal case of this sub-group was analyzed at some length, and the results of the microscopic examination of the spinal cord and nerves were reported upon. The case was that of a carriage-painter, who suffered for some years with progressive anæmia and general emaciation, and for the two years preceding his death with weakness, paræsthesia, and impairment of sensibility, with exaggerated tendon reflexes and extensor spasm, increasing finally to complete paraplegia. Lead had been found in the urine three times, but the patient had never presented "a blue line," characteristic of paralysis, encephalopathic symptoms, or colic, though the bowels had been obstinately constipated for years. The morbid changes found after death, besides the signs of general anæmia, were those of combined antero-posterior and lateral sclerosis of the cord, on which at the last, a subacute process of diffuse destructive softening had engrafted itself.

This latter process, which was characterized by the presence of a dense infiltration of granule-cells, and by a breaking down of the nerve-tubes, so as to form round or oval cavities, such as have often been described, extended throughout the length of the cord, occupying the position of the sclerosed system tracts and the adjoining tissue. The nerve-roots were affected, though to a less degree than the cord; the posterior much more than the anterior. The acuter process was at its height in the dorsal region. The gray matter was also affected, apparently in proportion to the severity of the secondary acute change, *i.e.*, most severely in the dorsal region. The smaller arteries were here and there thickened. The peripheral nerves were degenerated, but only to a moderate degree.

It was not assumed that these changes in the cord were due to lead as a specific poison, though at the same time the evidence is that such myelitic changes as lead does set up are diffuse in character and not co-ordinated with the typical peripheral nerve-degeneration. It was, however, thought more probable, in view of the circumstance under which such pathological processes had been seen in other cases, that the lead acted, if at all, by inducing a general and—through the thickening of the vessels—a local anæmia, thus intensifying the effects of other influences, of which one might be an hereditary tendency.

Another case was cited to show that lead in drinking-water may cause outbreaks of acute indigestion in children, while other children exposed to the same influences may be wholly unaffected.

A number of observations made on Boston drinking-water, by Dr. E. M. Greene, were reported, showing the frequency with which lead is present and the length of time required to wholly rid a pipe of its presence.

Harold C. Ernst, of Jamaica Plain, Mass., read a paper entitled

HOW FAR MAY A COW BE TUBERCULOUS BEFORE THE MILK BECOMES DANGEROUS AS A FOOD SUPPLY.

The observations which he reported were made at the instance of the Massachusetts Society for the promotion of Agriculture. The surroundings of the animals and food were prepared in the most careful manner. One hundred and fourteen samples of milk were examined for the bacillus. These were obtained from thirty-six cows, suffering with tuberculosis of some organ other than the udder. Seventeen samples were found to contain tubercle bacilli. These seventeen specimens came from ten cows. The cream was found to contain bacilli as often as the milk. The bacilli were present with a fair degree of constancy.

Well animals were then inoculated, with the result of inducing the disease in fifty per cent. of the cases treated. Feeding experiments were also made with the result of inducing the disease in a number of calves and young pigs. The following conclusions were presented: 1, and emphatically, that milk from cows affected with tuberculosis in any part of the body may contain the virus of the disease. 2. That the virus is present whether there is disease of the udder or not. 3. That there is no ground for the assertion that there must be a lesion of the udder before the milk can contain the infection of tuberculosis. 4. That, on the contrary, the bacilli of tuberculosis are present, and centre in a very large proportion of cases in the milk of cows affected with tuberculosis, but with no discoverable lesion of the udder.

Dr. E. N. Whittin, of Boston, read by title a paper on

PRIMARY CANCER OF THE DUODENUM.

Dr. William Osler, of Baltimore, exhibited a patient showing anæsthesia the result of lesions of the cauda equina.

Dr. E. L. Trudeau, of Saranac Lake, read a paper entitled

HOT-AIR INHALATIONS IN PULMONARY TUBERCULOSIS.

The paper presented a brief clinical history of four cases treated during periods varying from one to four months by Weigert's method. This was considered as secondary, and only as a basis for the bacteriological study, which is left to answer the claim of specificity made for the method. The question to be answered is whether breathing of hot air can prevent the growth of the tubercle bacillus in the lungs of living individuals. The clinical evidence obtained brings out no positive proof in favor of the treatment. From the bacteriological research the following notes are made: In all the cases the bacillus which was present before the treatment remained in the sputum, and no effect was produced upon that important element of the disease. The claim of diminished virulence was tested by inoculations made on rabbits before, during, and after the treatment. The sputum of one of the patients, who improved, was found fifteen weeks after the uninterrupted daily breathing of hot air to produce tuberculosis in the animals injected, as promptly and to a similar extent as that injected before the treatment had been instituted.

*Conclusions.*—1. The therapeutic value of hot-air inhalations in phthisis is doubtful. 2. The evidence obtained by bacteriological study of the cases recorded does not confirm the assumption that inhalations of heated air can either prevent the growth of the tubercle bacillus in the lungs of living individuals or diminish the virulence of this microbe when it has gained access to them.

Adjourned.

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A Centenarian Surgeon.—The *Patria* of Buenos Ayres affirms that there is now in Bolivia a surgeon, Luca Silva by name, whose age is not less than one hundred and twenty-nine years. He was born in Cochabamba, in 1760, and devoted himself, after graduating in medicine, to the practice of surgery. He rendered important service to his country, when, after the famous manifesto of June 16, 1809, she entered on her struggle for independence. His treatment of the wounded, particularly his operations on the field of battle, won him high distinction. He also earned signal honor in the combatant ranks.

## BRITISH MEDICAL ASSOCIATION.

*Fifty-seventh Annual Meeting, held at Leeds, England, August 13, 14, 15, and 16, 1889.*

(Special Report for THE MEDICAL RECORD.)

(Continued from page 335.)

### SECTION OF MEDICINE.

FRIDAY, AUGUST 16TH—THIRD DAY.

THE proceedings of the Medical Section on Friday commenced by a paper by DR. RUFFER (Paris Institute of M. Pasteur),

#### ON THE PREVENTION OF HYDROPHOBIA BY PASTEUR'S METHOD.

DR. EDDISON, of Leeds, presided, and before calling on Dr. Ruffer to read his paper observed that he had for some time believed that it was useless to send hydrophobia patients to Pasteur. He had, however, gradually been compelled to change his mind on this point, as evidence became clear in the direction of this operation.

DR. RUFFER said that the disease hydrophobia had excited immense interest ever since the days of Aristotle. It was not a common disease, and many men of great medical experience had never seen a single case of it. The fact that a person bitten by a rabid dog was in danger of his life for a whole year was what made the disease such a terrible one, for hitherto there had been no chance of curing the patient when once attacked with symptoms of the malady. In 1885, in the month of November, M. Pasteur first stated that he could prevent hydrophobia in dogs, after they had been bitten, and this announcement was speedily followed by the treatment of human beings by this process which had proved successful in the case of dogs, and at the present time more than twenty establishments existed in Europe, and throughout the world, to carry out Pasteur's process. Hydrophobia was a specific infectious disease, which never, as far as was known, originated *de novo!* Unfortunately in this case, up to this date, no micro-organism had been seen which caused the disease. Experimentally, it had been found that inoculations in all parts of the body with the virus of rabies had power to produce the disease; but it was only when the virus was deposited beneath the dura mater, that the disease inevitably followed such insertion of it. It was found in the treatment by Pasteur's inoculation processes that abscesses never followed the inoculations. With regard to the incubation period of rabies, it was found that twenty per cent. of patients who succumbed to the disease died within a month after the bite, ninety per cent. died before the end of four months, and only a very small minority had an incubation of anything like a year. The longest incubation period he had been able to hear of was one where the patient succumbed fifteen months after the bite. The shortest incubation on record was thirteen days after the bite.

The second stage in the attack was the convulsive stage. Hydrophobia was a bad name for the disease, since the symptom of aversion to drink might be absent throughout the whole course of the disease. In dogs this symptom was usually absent. In rabbits there was no agitation, but simply paralysis seen. Some human beings died of the paralytic form of the disease, and Dr. Gamaleia had narrated twenty cases of death occurring in Odessa from this paralytic form of rabies, which was now known to be a far more frequent form of the disease than was formerly supposed. Hydrophobia or rabies was always fatal in man, but not quite so uniformly fatal in dogs. Thus M. Pasteur found one dog out of three which he inoculated with rabies which had only a mild attack of rabies, and then recovered completely, and was then quite safe against all inoculations after that event. If a rabbit be inoculated by a rabid dog's virus, that rabbit would die in eighteen days, but if a piece of the spinal cord of that rabbit were inoculated under the dura mater of a second rabbit, it would die in fourteen days; a third rabbit treated from the second rabbit would take the disease on the ninth day, and at length rabbits inoculated under the dura mater would take the disease invariably on the sixth or seventh day, and die on the tenth day. This was the so-called "fixed" virus of M. Pasteur, and was uniform in its strength for years if inoculations were carried on uninterruptedly on fresh rabbits. If the spinal cord of such animals, after death, were hung up in a dry sterilized bottle, the virus gradually, and in eleven days, lost its virulence. If a piece of such an exhausted spinal cord were injected into an animal, the poison of the special microbe was injected into that animal. In the case of the yeast-plant, it died when it had produced a certain quantity of alcohol and carbonic acid in any medium; and all germs produced certain poisons in which they could not exist if there were much of them. If the germ of malignant œdema were cultivated in beef-tea, and if the sterilized fluid were injected into a guinea pig, and then into a dog, the dog would die; but if the poison of the germ were injected beforehand, the dog would be safe. The animals were then said to be "vaccinated" against that virus. This was the explanation of the way in which the Pasteurian treatment of hydrophobia succeeded in preventing the outbreak of the fatal symptoms of the disease.

Pasteur had two treatments which he made use of at present in treating rabies in patients. The first was the simple method, the second was the intensive method. If the cord of thirteen or fourteen days were injected subcutaneously nothing but vaccinatory matter was injected, and after this if a few of the germs were injected along with this substance it was possible gradually to arrive at injections with the virus of the second or third day, when the patient was rendered unsusceptible to the effects of the virus of the dog-bite. The simple treatment lasted fifteen days, and on the first day the patient was inoculated with the cord of the fourteenth and thirteenth day, and so on, two injections being made daily for fifteen days. The intensive treatment was had recourse to for bites about the face, for in such cases an incubation of only thirteen days occasionally occurred. Here a large quantity of vaccinatory substance had to be injected quickly and repeatedly, and four injections were made daily for twenty days, two days' rest being given, after injecting a certain number of times, followed by resumption of inoculation until, in all, twenty days' inoculation were given.

Pasteur never injected the virus of the first or second day. As to the details of the operation, the occurrence of erysipelas was avoided by sterilizing the subcutaneous injecting needles by dipping them into boiling oil before using them. All of the injections were made in the abdomen, and no evil effects ever followed these injections. Supposing that a patient were bitten by a rabid dog, would he have a better chance after Pasteur's inoculations, than if he had not been treated at all? This required the consultation of statistics before and after this treatment had come into vogue. The statistics before the Pasteur process was invented were as follows: In Wurtemberg, nineteen per cent. of all patients bitten by rabid dogs or cats had died, and twenty-one per cent of those similarly bitten in Paris. The best statistics were those of Leblanc, who found that 15.9 of all persons bitten by rabid animals had died of the disease. All other statistics cited showed too high a percentage; but fifteen per cent. might be looked upon as pretty near the truth. As to bites of rabid wolves, the statistics published gave a mortality of from sixty to sixty-four per cent. after these; but, in many cases, the percentage was still higher. Thus Menchikoff, of Odessa, mentioned that a rabid wolf bit thirty-five men and twenty-three women, and that twenty four of the men died and fifteen of the women. Seventy-seven per cent. of the cases had died. But of people bitten in the face by such wolves, eighty-eight per cent. were said to have died. Leblanc's tables give a mortality in wolf-bites of this character of eighty per cent.

As to the statistics of Pasteur's laboratory, the cases were divided into three groups. In the first group were those patients who had been bitten by dogs found to be mad by the examination of their brain, in the second the cases where the dog was certified to be mad by veterinary officers, and in the third were the cases where the dogs were reputed to be rabid. The result of the statistics up to the present date was that there was a percentage of 1.4 deaths among persons bitten in the first group, and of .58 in the cases when the dog was not supposed to be mad. When the simple treatment was still used the mortality in cases of bites on the hand and face by rabid dogs was 4.83; but since the intensive treatment had been applied, fifty cases bitten on the face and head had been treated without a single death. The percentage of deaths after bites on the hand had been 1.22 per cent. In other countries the statistics were also very favorable. In St. Petersburg, from 1886 to 1888, the mortality had been 2 per cent. of all treated by Pasteur's process. In Odessa, where this simple treatment was applied the death-rate was 3 per cent. When the intensive treatment was applied, in 1887, it was only .58 per cent. and in 1888 .6 per cent. Lately, of twenty-six cases treated there one child aged seven died, although all the patients had been terribly bitten by wolves, and one of them had thirty deep wounds. In Moscow, in 1888, the mortality was only 1 per cent. In Varsovie a medical man, a pupil of Dr. Koch, and at one time opposed to the preventive treatment, had treated three hundred and seventy persons by it and they had all escaped. In Italy, at Turin, the percentage had fallen to .56 and in Naples Dr. Cantani reported a mortality of from 0 to 1 per cent. Pasteur's statistics up to 1887 showed a total mortality of 1.37 per cent. Of 1,501 patients bitten by dogs proved to be rabid there was a mortality at first of 1.52 which, afterward fell to .95 per cent. and in 1888 to .55 per cent. It had been asserted that, instead of preventing hydrophobia, Pasteur's inoculations had caused a certain number of deaths from the disease. This was a complete error. No such case had been seen, whereas numbers of the assistants in the Pasteur Institute and of the pupils of Pasteur in foreign countries had such confidence in the process that they had inoculated themselves preventively, because, being constantly in the midst of the redoubtable poison, they considered it important to "vaccinate" themselves in case of accidental inoculation of the parts. And when it was alleged that the cases which had died after Pasteur's inoculations had been of the paralytic type this was not of any importance, as that type was every now and then seen in the course of the natural history of the disease.

Dr. Eddison, of Leeds, in opening the discussion, said that in Leeds there had been two great epidemics of hydrophobia, or rather of rabies, the latter of which names was far the most scientific. He had seen many cases of the disease in the Leeds Hospital, *i.e.*, at least twenty. Some persons would have it that there was no such disease, and a great teacher in Leeds taught this erroneous doctrine for many years, and confused many of his pupils by so doing. He asked Dr. Ruffer whether in the case when one dog recovered after inoculation of rabies, it was reinoculated with the same virus or not. Were wolf-bites worse because the animal was in the height of its disease and thus bold enough to enter villages. In criticising the results of Pasteur's treatment, this should be done as was done in criticising the results of treatment by any surgical operation or poison. In such cases it was not said that the patient died of the treatment, but the aim was to find how many persons were saved by it.

A Member said he lived in Hertfordshire, and had recently sent a boy to Pasteur's Institute who had been bitten by a mad dog in his neighborhood. He had also visited the Institute and seen one hundred and fifty persons under treatment.

Brigade-Surgeon Dwyer (Malta) said that it was not necessary to go to any great expense in setting up a Pasteur Institute in any locality. Thus, in Malta last year, a man was bitten by a rabid dog and the Maltese government at once established a small locale for the inoculation of rabbits after Pasteur's process. This cost annually only between £200 or £300 or at most £400. The rabbits were regularly inoculated, but as yet he did not know that any other cases had arisen in Malta. He was in the Mauritius for some years and there there was a great deal of the disease rabies. In the Island of Bourbon, on the other hand, which belongs to France, no cases of rabies had as yet been seen, as strict quarantine on dogs was obligatory on that island. He was not quite content with the statistics sent from Russia, because in that country there was but little public opinion, and it must be remembered that the laboratories there were carried on by private medical men whose interest it was to make the most of the statistics.

Dr. C. R. Drysdale, of London, said he had first visited the Pasteur Institute in 1886, and had since then visited it every year. He had read also all the literature of the subject, and studied it assiduously, and hence he considered himself able to come to a conclusion. That conclusion was that M. Pasteur had completely proved his assertions, and that he had made the greatest advance in therapeutics which had been made since the days of Dr. Edward Jenner. The statistical proof, although most valuable, was not the proof that had convinced him. Jenner's proof of the importance of vaccination was shown by the fact that he used to vaccinate persons, and then inoculated them in a month or two afterward with smallpox pus, and these cases did not take variola. In the same way M. Pasteur had inoculated forty dogs preventively, and then injected strong virus into their crania, and yet the disease was not produced. It was this experiment that convinced M. Graucher and other Parisian physicians, and made them apply to Pasteur to treat a case of rabies in a boy in 1885. The statistics so admirably given by Dr. Ruffer were a splendid confirmation of the induction made by the greatest of all modern experimenters on virulent diseases, and it required either an amount of indolence of mind or a great amount of obstinacy for anyone of intelligence, who had studied the facts, to reject the conclusions come to in Dr. Ruffer s paper. He answered the question, Ought a person bitten by a rabid dog to put himself under the process discovered by Pasteur? in the following way. Yes! without an hour's delay: because all delay was dangerous, since the incubation of rabies was sometimes under a fortnight. The process was perfectly innocuous even to persons who had no disease, which was found by the great number of gentlemen connected with the Parisian and other similar establishments, who had been preventively inoculated without a minute's ill health or any suffering being caused, except the prick of the injection-needle, which in no case ever caused suppuration, erysipelas, or any mischief whatever. It was absurd to exclaim against treatment which was so pleasant, so rapid, and so perfectly safe. All who had visited the Pasteur Institute would, he was sure, join with him in the admiration he felt for the staff, both medical and lay, of the establishment. The care, incessant watchfulness, patience, and attention shown by M. Pasteur and his friends to the patients was worthy of the warmest eulogiums from all lovers of therapeutics, and he only regretted that the discovery made by Pasteur had been made by a gentleman who was not a member of the profession of medicine. It was time that the audacious falsehood of that envious party in this country, which was composed of anti-vaccinators, social purists, and anti-vivisectionists, should be silenced by the unstinted gratitude of the whole of the medical fraternity of English-speaking nations, and that the name of Pasteur should become enshrined in the hearts of all lovers of human health and happiness.

Dr. Saundby, of Birmingham, said that he was not ready to adopt the enthusiastic tone in which Dr. Drysdale spoke of Pasteur's discoveries. He thought that enthusiasm was dangerous, and that it was well to keep the mind cool and in a critical condition. Twenty years ago

there was a great epidemic of rabies in Birmingham, and no one contracted hydrophobia. This was a remarkable fact, and one which should be accounted for. Pasteur might have done some other thing to treat patients for hydrophobia, and might have been successful. The analogy given by Dr. Drysdale from Jenner's experiments to Pasteur's was not complete; for Jenner had vaccinated before the injection of small-pox pus, whereas Pasteur injected preventively after the virus was already in the system. And this was doubtless also the case when forty dogs were treated by the same treatment. He suspected that there had been far too little open criticism of Pasteur's process. In France, it had become a patriotic thing to sustain Pasteur's name and no effort had been made to judge of it on its real merits. Professor Peter, however, had mentioned the case of a man who had succumbed to paralytic rabies in his hospital and who had been treated in Pasteur's laboratory. That man he, Dr. Peter, considered probably to have taken the disease from the preventive inoculations. Other similar cases had been published where the patients seemed to have died from the effects of rabbit rabies, and not from dog rabies.

Sir William Moore said that, some years ago, a teacher of pathology had published a book to show how poisonous the human saliva was, when injected into animals. As to the cure of rabies by Pasteur's process, it must be remembered that cases had been published when the incubation of the disease had been as long as seven, fourteen, and twenty-one years. He had heard of a case of an incubation of syphilis of twenty-seven months. He knew of a man who had been bitten by a mad dog, and who died hydrophobic six years subsequently. Hydrophobia was not always fatal, for he had published a case where the patient had recovered, and Dr. Bristowe had given another. The result of the statistics put forward by Dr. Ruffer were, therefore, not conclusive, and it was not yet time to pronounce decisively on the Pasteurian process for the prevention of hydrophobia.

Dr. Vaughan Harley said he had studied at the Pasteur Institute for some time, and would remark that the inoculations for rabies were only a part of the work done at the Institute. Other virulent diseases were studied, and he might remark that it seemed not impossible that a vaccine against diphtheria might ere long be discovered at that institute. He could fully corroborate the facts put forward by Dr. Ruffer.

Dr. Torrance said that he might perhaps be permitted to mention what was the treatment of hydrophobia in Syria. In that country, when the disease supervened, a mad priest was asked to spit upon some food, which was administered to the patient, in the hope that like might cure like.

Dr. George Harley, of London, was greatly obliged to Dr. Ruffer for his admirable paper. It was not to be expected that agreement could be arrived at on such difficult subjects, for human brains were so different that what was proof to one mind was not so to another. It was a mistake on Dr. Saundby's part to suppose that Pasteur had remained without criticism in his own country. The very opposite was the case, and the attacks on that great man had been venomous and unscrupulous to the greatest degree, just as had been the case and still was the case in Jenner's country when vaccination was discussed. The value of Pasteur's new ideas concerning virulent diseases was quite enormous; but that great man could not be expected to do everything. He had never personally seen a case of hydrophobia; and it seemed that waves of hydrophobia passed over countries every forty years or so. Forty years ago there was such a wave in England; and Waterton, the Yorkshire traveller, suggested the cure of the disease by means of a poison he had brought from South America with him, viz., ourari. This did not succeed because, in the case of rabies, the virus was not chemical but was a germ. At the time of the famous poisoning by Palmer, he, Dr. Harley, had made many experiments with strychnine on the spinal cord, and had been surprised to find that when he applied the alkaloid to the cord directly no effect ensued, and it was only when he allowed it to get into the blood supplying the cord, that spasms were caused. Hydrophobic virus, however, caused the disease when put in contact with the brain. He wished to say that insanity in the lower animals was not very uncommon, and that it was in no ways connected with rabies, and also that temperature had nothing to do with the production of rabies. In Kant's Arctic voyages, it was mentioned that sixty-five dogs were attacked by rabies and died of it in these cold regions. It was a curious speculation that it was the poisons which the germs produced for themselves which constituted the prevention of rabies, for it was thus the very product of the animals themselves which was used as an antidote for them.

Dr. Eddison, of Leeds, said that it was not generally known that the lower animals may become insane, and, of course, that had nothing in common with rabies. It was not always easy to say that a dog was rabid when it had bitten a person, and the only certain test was the inoculation of rabbits with part of the spinal cord of such a dog. He would like to say that the pain caused by hydrophobia was not so great as that caused by many other diseases, such as cancer or other affections. He had seen cases where the patient had not suffered much before he succumbed. As to the cost of a Pasteur Institute, that was nothing; the real difficulty in this country in establishing such an establishment was the existence of a hateful society which granted to a gamekeeper or a sportsman the right to torture the lower animals in traps, while it forbade any experiment being made on animals for the good of mankind. Forty years ago, in Squire Waterton's days, hydrophobia was common in Yorkshire; but since then there had been but few cases in the Leeds Infirmary. One hundred and fifty sheep were bitten and became rabid, and thus the disease was seen to be a real disease in Yorkshire. He would like to ask whether in the Pasteurian inoculations any slight symptoms of rabies were ever produced. He had been acquainted with Squire Waterton, and felt sure his family would be gratified to have his name so alluded to by Dr. George Harley.

Dr. Rapfer, in reply, said that, as to Sir W. Moore's cases of long incubation of hydrophobia, he could only say that he had taken the greatest pains to get at the truth on this point, and had only found one authentic case where the incubation period of hydrophobia had extended a year. As to Leblanc's statistics, that gentleman, a veterinary surgeon at Rouen, had been most careful in visiting all persons who had been bitten by rabid dogs, and in getting the history of these animals. Dr. Dujardin-Beaumetz had recently made some inquiries concerning rabid patients in Paris, and had ascertained that of three hundred and fifty persons bitten by rabid dogs in 1887, in that city, three hundred and six went to Pasteur's Institute and were treated there; of these three hundred and six, two died. Forty-four persons would not go to be treated by Pasteur, and of these seven died. As to the frequency of rabies in summer and winter, the statistics of the Pasteur Institute gave the lowest number of cases of bites in the month of August, and the highest in February. About one third of the cases were ascertained to be rabid by the inoculation test, and two-thirds by the evidence of veterinary surgeons. As to Malta, he had heard, quite recently, four men had been preventively inoculated in that island by Dr. Kaulana. Russian statistics were quite reliable, for all the medical men practising preventive inoculations in that country had been pupils at the Pasteur Institute. Saliva, when inoculated under the dura mater, often proved fatal; but when it did so it killed in one or two days; whereas, when sterilized rabid cords were injected, the incubation was always the same, *i.e.*, six or seven days. In the former case it was septicæmia that killed. It was quite true that the diagnosis of hydrophobia was sometimes quite obscure. Thus, in a case cited by a French observer, a man was brought to hospital supposed to be

suffering from acute mania; but when the cord was injected under the dura mater of a rabbit, it took rabies. In another case, a man was supposed to have delirium tremens; but he was really hydrophobic, as proved in a similar way after his death. Dr. Peter's case made a great noise, but, when the man died his spinal cord was procured by M. Pasteur and injected beneath the dura mater of a rabbit. The rabbit died after nineteen days, which showed that the man did not die of rabbit rabies, but from the bite of a dog. As to the political question, the way in which M. Pasteur had been treated by many of his own contemporaries in Paris was disgraceful, and humiliating to contemplate. Dr. Peters, in 1887, had published the details of a case of chronic hydrophobia. The patient was said to be in Lille, and accordingly one of M. Pasteur's pupils visited him. The man walked in seven miles from the country to see him, and in short the case was a fabrication, and not one of hydrophobia at all.

Dr. Bateman, of Norwich, read a paper on

THE JURISPRUDENCE OF APHASIA.

He mentioned many cases to show that a patient might be permitted to make a will, which was admitted to probate, although unable to explain himself in speech. Probate was granted in 1870 to the will of a man who had been a deaf-mute. There was also a very remarkable case where a widower, aged sixty-three, about to marry a young lady, was suddenly seized with aphasia. This gentleman showed by signs that he desired to leave £30,000 to the lady he had intended to marry. After death, it was shown by evidence that, on being asked what he wished to leave, he put up the five fingers of his hand, and on being asked if that meant £5,000 he nodded. He held up his hand six times, and was asked whether that meant £30,000. He was then asked if he desired to leave this sum to Miss R——, and he nodded his head. Asked whether this was to be left unreservedly to her, he shook his head. Asked whether the money was to be for her use during her lifetime, he nodded his head. The will was made up and witnessed according to these instructions, and patient affixed his mark. When the case came before the court, the judge said he would have granted probate if the mark of the testator had been put in the right place, but it was made on the body of the deed and not at the end, and this made the document useless. A similar case had occurred in an aphasic gentleman, aged sixty-two, in France, who could not write without copying his handwriting, and whose will was not disputed by the courts. In this case the patient's intellect was excellent, and he could keep up a conversation by means of the deaf-and-dumb alphabet. These were all cases of motor aphasia. When there was sentient aphasia, doubtless the case was more difficult, as the intelligence was thus lessened.

Dr. Eddison, of Leeds, said it was often very difficult to come to a correct opinion as to the amount of intellect remaining in the aphasic patient, and this essay was most useful.

Dr. Drysdale, of London, cited the case of a celebrated civil engineer who had right motor paralysis and aphasia, but who wrote his own checks, copying them from a former signature of his own, and who, for many years, was senior partner of his firm. His partners, however, did all the work. In this case the gentleman retained enough intelligence to play whist with the cards spread out before him, and left a will which was not contested. In a debate on this subject at the Worcester meeting of the British Medical Association, Professor Gairdner had mentioned the case of a Scottish judge affected with aphasia, who had continued in office for some years and sat on the bench while suffering from a form of this malady.

Dr. Rankin, of Kilmarnock, cited the case of a deaf-mute, who had left a will which had not been contested.

## CANADIAN MEDICAL ASSOCIATION.

*Twenty-second Annual Meeting, held at Banff Springs Hotel, Northwest Territory, August 12 and 13, 1889.*

(Reported by our Canadian Correspondent.)

MONDAY, AUGUST 12TH—FIRST DAY.

The selection of Banff Springs as the place of meeting was demonstrated by the large attendance to be an excellent one. Every province of the Dominion was represented, and the arrangements made, both for the comfortable transportation of the members and their accommodation at Banff, were most complete.

The meeting opened with Dr. George Ross, President, in the Chair. He expressed his pleasure at the large and representative attendance, and briefly introduced the President-elect, Dr. H. P. Wright, of Ottawa.

RECEPTION OF DELEGATES.

Drs. Conner and Whittaker, of Cincinnati, Drs. Gibney and Bulkley, of New York, and Dr. Marcy, of Boston, were then introduced to the Association, and received a warm and hearty reception.

AN ADDRESS OF WELCOME.

Dr. Brett, of Banff, on behalf of the Local Committee of Arrangements, presented an address of welcome to the Association, in which every assurance was given that the members present would receive every attention, and that no pains would be spared to make their visit as pleasant as possible; so that the most favorable impression would be carried away regarding the beauty as well as the health-giving properties of the national parks.

PRESIDENT'S ADDRESS.

Dr. H. P. Wright then delivered the President's annual address. His first reference was to the loss sustained by the Association during the past year by the death of Dr. R. P. Howard, of Montreal, one of the first presidents of the Association, and a gentleman whose valuable contributions to past meetings were always so highly appreciated. The importance of establishing a National Board of Health for the Dominion was then dwelt upon, and the good results that might be expected to arise from such an organization were fully commented upon. There were many reasons for congratulation on the advance made in the educational interests of the profession, as might be seen in the raising of the standard of the preliminary examinations required before entering upon the study of medicine, and in the improvements made in recent years in the methods of instruction now carried out in Canadian medical institutions. In regard to the matter of reciprocity of registration between the several provinces of the Dominion and the British boards, a question which caused considerable discussion at the last annual meeting, he said, that through the efforts of the provincial board in the Province of Quebec, reciprocity of medical registration had been secured between that province and the English boards, and he trusted that before long the same satisfactory arrangements would be made by the other provincial boards. The question of Canadian climatology, Dr. Wright thought, might be considered a favorable theme for the consideration of the Association, meeting as it did this year in what was considered by many the most healthful portion of the Dominion. The aseptic nature of the atmosphere in the northwest territories was certainly remarkable, and the virtues of the hot springs of the National Park, particularly in the treatment of rheumatism and syphilis, had already been successfuly established. The early formation of medical boards in these western provinces had already proven of advantage to the public and the profession, and would no doubt afford protection from quacks and charlatans. The address, which was an able review of the present condition and scientific needs of medicine in the Dominion, closed with an extended and able reference to the influence of bacilli in the propagation of disease, and drew attention to the liability of certain diseases, such

as tuberculosis, being communicated from animals to man. Before taking his seat the President expressed the opinion that the present meeting would be highly successful, and that holding the sessions in this western portion of the Dominion would create fresh interest in the welfare and prosperity of the Association.

The meeting then went into executive work, after which it was resolved to adjourn.

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TUESDAY, AUGUST 13TH—SECOND DAY.

The President, DR. WRIGHT, of Ottawa, took the chair and called for the reading of papers, and expressed the wish that the visiting delegates would feel at perfect liberty to engage in the discussions.

DR. ADAM WRIGHT, of Toronto, presented a paper entitled

HÆMATOMA OF THE VULVA AND VAGINA,

a pathological condition arising from pressure on blood-vessels during pregnancy. He related the history of several cases in which treatment had been successful by free incision.

DR. ROSS, of Toronto, and DR. HOWARD, of Truro, N. S., spoke of the frequency with which such cases are apt to occur, and the importance of their early recognition.

DR. MARCY, of Boston, related the history of a case of thrombus of the vulva, in which he had advised premature delivery. The patient, who was pregnant with twins, would not consent, and went on to full term. Death followed the third day after delivery. The autopsy showed that degeneration of the kidney existed.

DR. RODDECK, of Montreal, favored leaving these tumors alone, unless the growth became large and proved an obstruction, and in such a case he agreed with Dr. Wright in laying them open with the knife.

DR. TRENHOLM, of Montreal, had experience in one case in which he had used the shoemaker stitch, and thus cut off all blood-supply to the tumor. The results had been very gratifying.

Dr. Sloan, of Blyth, and others continued the discussion.

DR. KENNEDY, of Fort McLeod, read a paper on

THE CLIMATE OF SOUTH ALBERTA,

with special reference to its advantages for patients with pulmonary complaints. He gave an interesting description of the soil and the different atmospheric changes common to that territory. In eleven years' practice he had known only four cases of pneumonia, and phthisis was indeed a rare disease. Many who came to Alberta with incipient phthisis recovered. The atmosphere was certainly peculiarly aseptic, and the rapid healing of wounds was a wonder to many. They were not altogether free from disease in the territory, for they were often troubled with a mild form of fever pronounced by some to be typhoid, and by others to be entirely of malarial origin. The climatic influences of Alberta were certainly most favorable to health, and he ventured to predict that when the salubrious climate of the territory became well known, and its marked suitability as a health-resort were understood by the Canadian people, many would avail themselves of its advantages.

DR. OLDWRIGHT, of Toronto, expressed the hope that the Dominion Government would establish meteorological stations, from which valuable observations might be made in Alberta. This, he thought, would furnish information much to be desired regarding the climate of the territory.

DR. MCINNIS, of Edmonton, spoke of the abnormally high temperatures often met with in Alberta. He had frequently noticed a temperature of 108° F. followed by recovery. What would be considered an alarmingly high temperature in the east was commonly met with in this western territory. There was also marked absence of the typical features as seen in intermittent fever in the east. He corroborated the evidence of Dr. Kennedy regarding the great immunity enjoyed by Alberta from pulmonary diseases.

DR. HENDERSON, of St. Paul, Minn., had had considerable experience as a railway surgeon in the early history of Alberta, and had noted the frequency with which high temperatures were recorded.

DR. BENTLEY, of New Westminster, B. C., had found no cases of intermittent fever which had arisen in British Columbia. There was considerable difference of opinion among medical men, at the Pacific coast, as to the real nature of the mild form of fever they often had to deal with. While some pronounced it typhoid, others ascribed to it a malarial origin and called it typho-malarial fever.

DR. WHITTAKER, of Cincinnati, deprecated the use of the term typho-malarial, and hoped to be able to return and inform his confrères in the east that he had attended its funeral on the top of the Rocky Mountains. Pathological research had, he thought, established the fact that examination of the blood would disclose whether a typhoid condition was present or not. Regarding the immunity from phthisis in Alberta, he considered this would strengthen the contention that upon purity of the air more than upon anything else depended the successful treatment of that disease. To the high altitude of the territory might be ascribed the more rapid circulation and decreased respiration, and these circumstances, with the aseptic atmosphere, might account for the freedom so happily enjoyed from pulmonary diseases. He combated the idea of the supposed hereditary nature of phthisis, and was convinced that small apartments and neglect of hygienic measures to secure pure air were great factors in the cause of that disease.

Dr. Henderson, of Kingston; Dr. McLennan, of Trenton, and Dr. Praiger, of Nanaimo, B. C., continued the discussion, and expressed pleasure that the claims of Alberta as a territory enjoying such freedom from pulmonary diseases had been so well presented.

DR. GIBNEY, of New York, opened an interesting discussion on

THE TREATMENT OF HIP-JOINT DISEASE.

The term hip-joint disease was, he thought, somewhat misleading. He looked upon it as a disease almost entirely of tubercular origin, and taking this view, we are greatly assisted in our management of these cases. Absolute and complete immobility of the affected joint was, he considered, the foundation for all treatment. An abundant supply of pure air, with good, wholesome nourishment, were most important factors in the treatment. He had not had much satisfaction in the use of any of the splints devised for the treatment of this disease, but thought the perineal crutch useful in some cases. A plaster-of-Paris dressing extending from the free ribs downward, applied sufficiently strong to secure immobility, was necessary. There was no fear of trouble from anchylosis of the joint in these cases. In conclusion he related the different steps to be taken, should operation be found necessary.

DR. CONNER, of Cincinnati, thought, with the previous speaker, that tubercle bacilli were the main cause of hip-joint disease. The joint was found to be a favorite resting-place for bacilli, where it became encapsulated, and either remained dormant or gradually developed, and thus caused extension of the disease. In reference to treatment, if the joint were kept absolutely quiet, nature might take care of the tubercle, and successful or partially successful results would follow. If, however, operative interference became necessary, recourse might be had to (1) freely opening and scraping out the tubercular deposits; (2) exsection of the hip-joint; or (3) amputation of the limb. He had been obliged to favor the latter in severe cases, but considered early diagnosis and prompt treatment, by securing complete immobility of the joint, would often render unnecessary the operations for the cure of this disease. He emphasized the importance of having the patient kept in as completely an aseptic atmosphere as it was possible to secure.

Dr. Strange, of Toronto, related an interesting case of hip-joint disease of traumatic origin. If operation became necessary in cases of a tuberculous nature, he favored opening the joint freely, and removing with the strictest antiseptic measures all tubercular deposits. He believed all such cases should be kept in the open air as much as possible.

Dr. Roddick, of Montreal, favored extension as a valuable addition in treatment of these cases. Careful distinction must be made between the tubercular and non-tubercular forms of the disease. The successful treatment was very often dependent on the early recognition of the disease.

The discussion was continued by Drs. Oldwright and Cameron, of Toronto; Shepherd, of Montreal, and Praiger, of Nanaimo, B. C.

Dr. Buller, of Montreal, read a paper on

PREVENTIVE DEAFNESS.

He first produced statistics showing the prevalence of deafness, and dwelt on the importance of early recognizing and promptly treating any symptom of deafness in childhood. The cause at first might be trivial, and its early discovery and removal was of the utmost importance. The oft-repeated fallacies that it was dangerous to check a discharge from the ear, and that a deaf child often recovered without any treatment, were often heard from the laity, but medical men should discourage and promptly refute such opinions. Earache, instead of being looked upon as a trivial matter, should call for a careful examination and diagnosis. Negligence, in not attending to what might seem but a slight defect in the hearing of a child, often led to serious trouble.

Dr. Reeve, of Toronto, said early attention to the walls of the pharynx, looking particularly for a hypertrophied condition, would in many cases remove what might ultimately lead to deafness in children.

Dr. Grassitt, of Toronto, presented a paper on

COLLES' FRACTURE.

After briefly describing the triple displacement of the lower fragment of the radius and the consequent difficulty in getting the displaced portions exactly reduced to their proper relations, he proceeded to discuss the different methods of treatment. In treatment of this fracture there must be no timidity on the part of the surgeon, who must carefully manipulate until reduction is secured. After that it mattered but little what form of splint was used, as long as the displaced fragments were kept exactly in place.

Dr. Roddick, of Montreal, thought care should be taken to break up the impactions and carefully readjust the parts. He favored using an anæsthetic in all such cases. In regard to splints, he favored an anterior splint with a ball in the palm of the hand.

Dr. Cameron, of Toronto, spoke highly in favor of Moore's dressing in Colles' fracture.

Drs. Sloan, of Blyth; McLennan, of Trenton; Geikie, of Toronto; Bust, of Paris; Smith, of Seaforth; Reddell, of Crystal City, and Stockwell, of Port Huron, Mich., continued the discussion.

Dr. James Ross, of Toronto, read the history of an interesting case of

EMPYEMA,

treated by free incisions.

Dr. James Stewart, of Montreal, presented a paper on

SULPHONAL,

giving the histories of fifty-two cases in which that drug had been administered as a hypnotic. When severe pain was present he found the drug useless; but in those cases where there was sleeplessness without pain it was highly useful. In those neurotic cases where the morphia or chloral habit had been developed, it was the means of securing beneficial sleep when given in twenty-grain doses. There was, he believed, no fear of the habit being established, as in the commonly used narcotics. Sulphonal produces no disagreeable secondary symptoms, nor any unfavorable effects on the heart and circulation. Its action was by giving rest to the cells of the cerebral cortex and thereby causing sleep. The dose was from fifteen to fifty grains, the ordinary dose being twenty grains. It was somewhat slow in its action, so that it was necessary to administer the drug early in the evening to secure a night's sleep. In some cases he had noticed six hours would elapse before sleep was produced. Large doses had been known to produce ataxic symptoms, but these were generally mild in character and soon passed away.

Dr. Whittaker, of Cincinnati, said that his experience in the use of sulphonal confirmed all that Dr. Stewart had related in its favor. As an agent to procure sleep he considered it was a most valuable remedy. He had used it in the largest doses, and had never seen any danger, nor the least symptoms of danger from its use. There were persons who could not sleep while travelling on a train or steamer. Such persons might have a good night's rest free from any objectionable after-effects by taking early in the evening twenty grains of sulphonal. He believed that it was of no value as an anodyne, but given in those cases requiring simply a hypnotic it was reliable in its action, and as such it was a new and valuable remedy.

Dr. Reeve, of Toronto, read a paper on

PAINFUL AFFECTIONS OF THE EYE AND EAR.

Dr. Whittaker, of Cincinnati, presented a paper on

VARICELLA,

reviewing some of the peculiarities sometimes associated with this disease.

Dr. George Ross, of Montreal; Dr. Bulkley, of New York, and others continued the discussion of the subject.

Dr. F. J. Shepherd, of Montreal, read a paper on

NEPHRO-LITHOTOMY,

giving a report of an interesting case in which the right kidney had been incised for calculus, with success.

Dr. Conner, of Cincinnati, discussed the subject at length, giving interesting reports of cases, and affirming that there should be no hesitation in cutting down upon a kidney where the existence of calculus was suspected.

Dr. Dupuis, of Kingston, and others continued the discussion.

Dr. L. Duncan Bulkley, of New York, presented a paper on

THE EARLY RECOGNITION AND TREATMENT OF EPITHELIOMA.

He first made reference to the importance of the early recognition of epithelioma, a condition which might often escape notice for considerable time. There were three methods by which we might seek to eradicate the disease: 1, excision; 2, erasure by curette; and, 3, destruction by caustic agents. After reviewing all the methods of treatment, Dr. Bulkley gave evidence from his own experience, of the success obtained from the application of Marsden's paste, consisting of arsenic, two parts, to one part of gum acacia. This, applied for a period of twelve hours, in the early history of a case, had often served in his hands to destroy the epithelial cells. He deprecated the use of nitrate of silver, and other similar agents likely to irritate, and thereby encourage the growth, but thought that in the use of the arsenical paste we had a valuable means of treating epithelioma.

Drs. Stewart, of Truro, N. S.; Chamberlain, of Morrisburg, and others continued the discussion.

The following papers were read and fully discussed:

"The Radical Treatment of Hernia," by Dr. Cameron, of Toronto; "A Résumé of a Few Surgical Cases," by Dr. Praiger, of Nanaimo, B. C.; "Some Improvements in Medical and Surgical Instruments," by Dr. Dupuis, of Kingston.

ELECTION OF OFFICERS.

The report of the Nominating Committee was presented, and the following officers were unanimously elected:

*President*—Dr. James Ross, Toronto; *Vice-Presidents*—For Ontario, Dr. Bruce Smith, Seaforth; for Quebec, Dr. La Chapelle, Montreal; for Nova Scotia, Dr. Johnston, Sydney Mines; for New Brunswick, Dr. Holden, St. Johns; for Prince Edward Island, Dr. McLeod, Charlottetown; for Manitoba, Dr. Spencer, Brandon; for Northwest Territories, Dr. Brett, Banff; for British Columbia, Dr. Evarts, Nanaimo; *General Secretary*—Dr. James Bell, Montreal; *Treasurer*—Dr. W. H. B. Aikins, Toronto.

Several resolutions were passed relative to the importance of establishing meteorological stations in the Northwest Territories, and of the desirability of every effort being made to furnish the fullest information regarding the climate and other advantages of the territory of Alberta as a health-resort.

It was also resolved to continue every effort to induce all local medical societies throughout the Dominion to incorporate with the Dominion Association, and maintain friendly relations between the parent body and the different provincial and county societies.

The usual motions of thanks were then passed, and the twenty-second annual meeting of the Canadian Medical Association was brought to a close.

## Correspondence.

### SOME OF THE DANGERS THAT THREATEN INVALIDS WHO TRAVEL IN RAIL CARS.

To the Editor of The Medical Record.

SIR: For several years I have made long journeys by rail in search of climatic conditions favorable to a renewal of health. Through the South to Florida, west as far as California and the Pacific Islands; in fact, to all the well-known resorts of the country. I have travelled principally by rail. I might call your attention to many things in the running of the trains by day and night, car construction, wayside dining conveniences, and in which at slight expense a great improvement for the benefit of the travelling public, and especially of invalids, might be made. But none more important, or that calls for more immediate action by the companies furnishing parlor or sleeping-cars, is there than that of improvement in the closet conveniences. I have found in many, and at all seasons of the year, that the closet opens directly to the open air beneath, and the motion of the car compels a strong current upward and inward. In any season of the year this must be, and is, extremely unpleasant to every traveller, and especially so, if not dangerous, to invalids on a journey, whether of one or six days; but in cold or wintry weather the exposure to the frosty current is extremely dangerous to those affected by some, if not all, diseases. On a few cars I have found ample provision assuring immunity from these dangerous air-currents, but in the majority of cases, and especially on the older Eastern roads (using old cars, etc.), the arrangements are of the most primitive character. The few new cars occasionally met with on these roads, though frequently advertised, do not seem to have been constructed with much reference to the comfort of long-distance travellers. The medical profession should take this matter in hand, and disregarding advertisements (and the few new cars for special exhibition), ascertain from actual inspection by a reliable person, what roads reaching winter or summer health-resorts provide cars convenient and safe for invalids, and not hesitate to advise their patients in this very important regard. In fact, the result of such an inquiry ought to be made as public as possible.

MISSOURI.

SARATOGA, September 10, 1889.

### THE PROPER TEACHING OF ANATOMY.

To the Editor of The Medical Record.

SIR: I have just read your editorial on "The History and Cost of the Didactic Lecture," in THE MEDICAL RECORD of July 27th, and heartily agree with much that is said concerning the waste of time in hearing tiresome, badly delivered lectures, containing nothing that cannot be readily and more agreeably found in current text-books. I heartily approve of the principle that students should be allowed to attend the lectures of any man who gives interesting instruction, and not be forced to listen to one teacher because he happens to be the holder of a certain collegiate chair. Nothing would so much as this stimulate our college professors to increased activity in their own sphere. A man, sure of his fees and certain of a compelled attendance, has little stimulus to scientific enthusiasm and improved methods of instruction.

I cannot, however, avoid criticising your remarks regarding anatomy, which are contained in the following paragraph:

"No wonder, then, that many didactic lectures are poorly attended. The student knows that he can find all the information in text-books, and sees no reason why he should listen to another's reading of the same. *Particularly is this true of a subject like anatomy. It is not a fault of any one man or any one institution. It is a universal one.*"

I have italicized the words because I am so sure that they are deductions from wrong premises. The reason that anatomy is considered a dry and wearisome study is because its so-called teachers do not teach it in an interesting way. In other words, the fault lies with the man and the institution. The chair is often, perhaps usually, given to a man who does not practise medicine or surgery. As well might materia medica and therapeutics be given to a man who never wrote a prescription or felt a pulse. Let anatomy be taught by those whose daily work brings them in contact with injuries, deformities, and anatomical landmarks, let it be portrayed on the living models as in our schools of painting and sculpture, let the student see that the men who teach anatomy make their professional living by knowing surgical anatomy, let the electrical current be employed to illustrate the function of individual muscles and to elucidate the complicated movements of the joints, and then no student will think he can find all the anatomy he wants in text-books.

If, however, the teaching of anatomy, the foundation-stone of all medicine, is intrusted to life-insurance examiners, to retired practitioners, or to peripatetic scholars who never enter a sick-room, it is no wonder that it becomes a mere catalogue of human tissues, and far less interesting to the hard-worked student than the columns of Dunglison's Dictionary. Anatomy *can* be taught so as to interest every earnest medical student. In my student days it was so taught in this city of Philadelphia by at least one man, and, as he still lives, it can be so taught at this day by him; possibly also by those who enjoyed his anatomical lectures in the Philadelphia School of Anatomy. Don't blame the science, I beg of you; blame its poor exponents.

Respectfully,

JOHN B. ROBERTS, M.D.

PHILADELPHIA, PA.

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NITRATE OF SILVER IN HYDROCELE.—A number of French surgeons have recently returned to the old method of treating hydrocele, called by some Defer's method, and express a decided preference for it over the treament by injections of iodine. After drawing off the fluid, a probe, on the point of which some nitrate of silver has been fused, is passed through the cannula, and the remedy is thoroughly applied to the inner surface of the tunica vaginalis. The reaction following is similar to that after the use of iodine, and the subsequent course is also the same. The advantages of the method are that it is more simple and easy of execution and is also cleaner.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 15 to September 21, 1889.*

SMITH, ANDREW K., Colonel and Surgeon. By direction of the acting Secretary of War, leave of absence for fourteen days, on surgeon's certificate of disability, is granted. Par. 1, S. O. 214, A. G. O., September 14, 1889.

STERNBERG, GEORGE M., Major and Surgeon. By direction of the acting Secretary of War, having completed the duties assigned him in War Department order dated February 4, 1889, S. O. 30, February 5th, A. G. O., is reassigned to duty as attending surgeon and examiner of recruits at Baltimore, Md. Par. 12, S. O. 218, A. G. O., September 19, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 21, 1889.*

BEARDSLEY, G. S., Medical Inspector. Granted six months' leave with permission to go abroad.

RUTH, M. L., Surgeon. Order granting furlough revoked and placed on waiting orders.

Medical Director HUDSON, Medical Inspector WOODS, and Surgeon DICKINSON, will continue as president and members of an Examining Board for examination of applicants for the position of Assistant Surgeons in the Navy, at San Francisco, Cal, until June 30, 1890.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 21, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 41 | 18 |
| Scarlet fever | 24 | 3 |
| Cerebro-spinal meningitis | 0 | 0 |
| Measles | 7 | 0 |
| Diphtheria | 55 | 10 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE BREEDING OF SINNERS.—The French Government hopes, apparently, by promoting marriages between male and female convicts, to bring back these stray sheep into the fold of morality and good conduct. Arrangements have accordingly been made to facilitate these unions, but physiologists and pathologists must feel sundry qualms as to the expediency of such a course. The physical and moral degradation of many of these social waifs is distinctly hereditary, and a careful moral training (which is not provided for) would, at the most, only modify the tendencies which have brought them within the clutches of the criminal law. The son of a poet is not of necessity a poet, but the offspring of a bawd or an assassin is extremely likely to develop the same proclivities. If even one of the parties to the transaction were worthy of respect some regeneration might be hoped for, but the association of two hopelessly abandoned bodies and souls is not calculated to improve matters in any respect whatever.—*The Hospital Gazette.*

TOO MANY DOCTORS EVERYWHERE.—As we have had occasion to note several times, it is not in America alone that complaint is made of an overcrowded state of the medical profession. The same condition prevails in England and France and Germany, and, indeed, all over the continent of Europe, except in the country districts of Russia. In the latter there is great need of physicians, but no money to pay them with. In an article in *Le Concours Médical* Dr. Grellety draws a dismal picture of the struggle for bare sustenance among the physicians of Paris. There are plenty of doctors, he says, with hospital experience, who do not make enough to pay their rent, and others who live on such short commons that a cutlet for dinner marks the highest feast-days, and even beans are regarded as a luxury that is attainable only now and then. He says that it was once proposed to institute at the "École des Beaux-Arts" a course for the discouragement of artists; the object of such a course being to demonstrate the cruelty of inflicting upon the community an exhibition of such daubs as most so-called artists now turn out. And he thinks that a similar course as a preliminary to medical studies would serve a most excellent purpose. The intending student could learn of the hardships of the average physician's life, the difficulty which he would have in making both ends meet, and his poor chance of ever making a success in life as regards either reputation or money.

A SIMPLE REMEDY FOR HICCOUGH.—Dr. Loebl reports, in the *Allgemeine Wiener Medizinische Zeitung*, No. 32, 1889, the case of a man, aged fifty-four, who suffered for five days and nights from a most obstinate hiccough. After trying all the ordinary measures without avail, he fell back upon a household remedy as a last resort, and ordered a teaspoonful of pulverized sugar wet with an equal volume of wine vinegar, to be taken at one dose. The hiccough stopped immediately, and did not return for six hours, and then ceased again upon a second dose of the remedy.

DANGERS OF CARBOLIC ACID.—Professor Billroth has called attention to the danger residing in the popular use of carbolic acid as an application to wounds and injuries of all sorts. He says he has seen four cases in as many months of insignificant injuries of the fingers to which carbolic acid was freely applied with the result of gangrene of the parts. He urges physicians to warn their patients against this drug, and recommends lead-water as the safest and most effectual application to slight wounds.

FEMALE PHYSICIANS IN LONDON.—England is said to have but seventy-three female physicians, of whom the leading one is Dr. Scharlieb. She was the first woman to receive a medical diploma from the University of London. After residing in India for a time she returned to London where she soon acquired a very large practice. Dr. Garett-Anderson, a Paris diplomée, is another of the leading female practitioners of London. She was instrumental in establishing the woman's hospital in London, and is dean of the school attached to the hospital, and also holds the chair of medicine. This hospital is managed entirely by women, the apothecary and attending physicians being women, the consultants only being of the opposite sex.—London correspondent of the *Semaine Médicale.*

ELEPHANTIASIS.—Dr. T. J. Bennett reports, in the *Texas Medical Journal*, for August, 1889, the case of a negress, fifty years of age, with elephantiasis of nearly three-fourths of the entire body. He gives the following measurements of the patient: Height, 5 feet 3 inches; weight, 440 pounds; ankle, 26½ inches in circumference; knee, 31½ inches; thigh, 46 inches; abdomen, 6 feet; largest part, 6 feet 6½ inches.

MISS KATE COREY, M.D., a graduate of the University of Michigan, has recently been admitted to honorary membership in the Indiana Medical Society, the first time, it is stated, this recognition has been extended there to a woman. Dr. Corey has been for four years the principal surgeon in charge of a hospital at Foochow, China, and has, it was stated in the convention, performed almost every surgical operation known.—*Medical and Surgical Reporter.*

# The Medical Record

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## Original Articles.

### THE INFLUENCE AND WORK OF THE ACADEMY.

BEING AN ADDRESS DELIVERED AT THE LAYING OF THE CORNER-STONE OF THE NEW YORK ACADEMY OF MEDICINE, OCTOBER 2, 1889.

BY A. JACOBI, M.D.,

EX-PRESIDENT OF THE ACADEMY.

THE New York Academy of Medicine has called upon the profession and the public alike to assist it in this ceremony of laying a corner-stone. Where we are now standing there will be the home of the Academy, we believe, for generations to come. If we be mistaken, if this large building will be too small before long, it will be the pleasant duty of our successors to provide for their wants. That this may become necessary is possible, for the Academy has experienced a development rapid beyond expectation. Forty-three years ago it was founded, dozens of years it held its meetings in hired quarters, ten years ago it occupied its own building, No. 12 West Thirty-first Street, to-day we are preparing accommodations such as the profession of New York, or any other city of the country, has never possessed. Meanwhile, however, the spirit and the aims of the Academy have remained intact. Among these aims are the cultivation of the science of medicine and the promotion of public health.

In the words of a circular published nearly two years ago in behalf of our building fund, "these purposes are accomplished by lectures and discussions in the stated meetings of the Academy and its numerous sections; by maintaining reading-rooms which furnish nearly all the medical journals of the world, and by collecting a library containing about sixty thousand books and pamphlets, which are free both to the medical profession and the public." The number of its fellows is nearly six hundred. They have been selected from among those who have practised medicine in New York City or its vicinity three or more years. Some time ago fellowship has been extended to those residing in the State.

In its composition the Academy participates in many of the peculiar features of our political organization, which means to benefit all through the co-operation, if not of all, still of the best. In Europe an Academy of Medicine means a small body comprising a few select men only, appointed by the body itself when there is a vacancy, or by the political rulers. Thus the Academies form an aristocracy of the mind parallel to the aristocracy of birth, with all its exclusiveness and real or assumed superiority. They are representative bodies only in this that the best minds and most scientific workers are expected or believed to fill the seats.

The New York Academy of Medicine, however, is a democratic institution. It is not limited in numbers—on the contrary, it is desirable that the many respectable physicians should gather round its flag. Like our political commonwealth, it must look for its development and success in the co-operation of the competent and cultured masses. Like the Union, it is a voluntary confederation of peers who make their own laws and obey them because they are of their own making.

The members have common interests, both scientific and professional. Since its foundation, with the changes for good and bad appertaining to everything organic, the Academy has prospered constantly, in spite of, or as I am more inclined to say, in consequence of its very constitution as an independent and democratic body. In the words of the same circular alluded to before, "the Academy is not connected with any school or college. It is self-supporting and is carried on in the interest of the whole profession. There are no fees nor emoluments of a private or individual nature. It is not supported nor subsidized by the State or municipality." Whatever has been accomplished by it—its scientific labors, most of which are laid down it its "Bulletins" and "Transactions," and in the medical journals of the country; the hall in West Thirty-first Street; the library and reading-rooms in the upper stories; the wealth of books and journals at the disposal of those eager to learn, and so numerous that they alone compelled us to look for more appropriate quarters—all of that has been created, with few exceptions, by the exertions and pecuniary sacrifices of the medical men themselves.

All classes of these are represented in the Academy. It shows you the choice of those who are interested and active in the promotion of medical science and art; those who have earned an international reputation; those who have deserved well of the community by a life filled with services rendered to the public; and those who look forward for the fulfilling of their dreams and the reaching of their aims through coming years of honest labor spent on theoretical study and practical work. In this co-operation of the old and young, the illustrious and those yet unknown, but promising or anxious to earn renown, the mature and the maturing, you have one of the features of a unity of the profession.

Another feature of unity which, moreover, ties the profession indissolubly to the community at large, is the labor performed in the service of one and all. It is in these labors and their results that the community at large ought to take a deep interest. Modern medicine is probably the greatest benefactor of mankind. The more medicine has been founded on the study of the exact sciences, chemistry, physics, and physiology with mathematics, the more has its field of usefulness enlarged. The more theoretical it appeared to become, the more did it develop practical usefulness and dignity. Indeed, the dignity of a science or study rises with its ability of being utilized in the service of mankind. Now, the promotion of medical science and art does not mean only the improvement in diagnosis and in the administration of drugs and remedies, but the discovery of the best means of placing the human being in the best possible condition. The labor of the physician is not exhausted by carrying you through a severe case of illness, he renders you the greater service, less remunerative to him though, of preventing you from falling sick.

The peculiar relations of the individual physician to his patient or the family intrusted to his care, are widened in the relations of the profession to the public. Great epidemics take the place of a single case, the protection of a community that of the guarding a person, the hygiene of schools that of a dwelling, the sanitation of a large city that of inspecting a suspicious trap or sewer in a private domicile. The more in your health department the medical element will predominate over the military and political, the more actual benefit will the people derive from it. The hygiene of the whole population, the superinten-

dence of public buildings in which many people old or young are gathered, public hospitals, quarantine stations, the questions of physical and mental elevation, of legal responsibility, of the State care of the insane, they all belong to the domain of the profession. This is not theory only. No grave question of the kind has come up without the gratuitous and spontaneous aid of medical men. The Health Board of the city has long appreciated that. The Academy has furnished a consulting board to all the health department's hospitals. A committee of the Academy was intrusted with the inquiry into, and the report on, the condition of Quarantine. It is to its report that the first appropriation for the rebuilding of the Quarantine Station was due, and to its recommendations that improvements are being carried out at the present time. In this way the medical profession excludes epidemics, and guards both the physical health and the economic interests of the city. Imagine the pecuniary loss to the city if the cholera and the yellow fever scare of a year or two years ago had not been prevented by the profession, as indeed it was. A week's panic would have been a pecuniary calamity amounting to the loss of a good many millions.

These are but a few examples of the value of medical services, both paid and unpaid ones, to the public. The health of the city is the foundation of its prosperity. Let epidemics prevail, and not only will your children die, your families be decimated, and the graveyards be filled with places where flowers and tears mingle, but your commerce will be drawn to other ports. It is due to increased knowledge and activity on the part of the profession, both official and unofficial, that in spite of the unchanged severity of the epidemics and the rapidly increasing population of the city, the number of cases of diphtheria shows an absolute diminution.

Such among many are the services of the profession, not to speak of the gratuitous daily work of hundreds of medical men in the hospitals and dispensaries. Nobody can count or calculate, but everybody can appreciate how many lives are preserved, how many millions are saved for the poor and rich alike. From that point of view, a whole-souled, generous woman presented to the Academy $25,000, in recognition of the services to the public on the part of the profession, and in accordance with the esteem her husband held the profession in while he was alive. To this consideration we owe the bequest of $70,000, coming to us under the will of Mrs. Alexander Hosack, who had spent a large part of her valuable life with illustrious examples of professional worth. It is the same thought that induced men and women with means, intelligence, and public spirit to make donations of five, two, or one thousand dollars. All we require now is $50,000 to complete this building. There must be many who have that sum or a part of it to spare in the interest of the profession; perhaps to commemorate the name of a dear one who has passed away, or to imprint his or her name—and a legitimate ambition it is—on one of the halls of the new building, or to perpetuate the memory of one who has been saved from a premature grave by the endeavors of one of those who are now striving to erect a home for the most practical and beneficent of all sciences and arts.

It is a home we want, more than merely a house. To make the house of the medical profession a home, it requires a library. This is to the profession what a tool is to the mechanic, an engine to the engineer, a telescope to the astronomer. A complete library represents the thoughts, experience, genius, and discoveries both of all previous centuries and the present time. All of these treasures must be accessible to the profession whose knowledge and skill is to be the safeguard of the public's best interests. To accomplish that end the whole medical literature of all countries must contribute. New York has never been satisfied with anything that is second class; it cannot afford to trust itself to a profession without the first order of learning and erudition.

Why do we insist upon physicians being erudite? Do I ask why do you apply to a particular watchmaker, an engineer, an architect, a milliner? You select him because you believe or know him to be well informed or skilful. And the physician? His practice is the application of knowledge acquired by hard brain work spent on all the learning and practice which have been evolved out of the labor and efforts of thirty centuries. A learned doctor may happen to be an unsuccessful practitioner for more reasons than one; but among those reasons erudition is not. An uninformed man is never a good practitioner; under equal circumstances, the more learned man is the better man in practice. Practice and learning do not exclude each other; on the contrary, the former depends on the latter. It ought not to suffice for your selection of a doctor that you met him at a bar, or a ball, or at a church meeting, or at whist, in a concert, or on a hotel piazza, or that he be well dressed, pleasant, and tells you he is your "friend;" all these are fine opportunities and agreeable social and personal qualities which may also be considered when you are credibly informed that he burns midnight oil over medical literature and that his professional brethren speak well of his abilities and achievements. And as far as medical friendships are concerned your best friend is he who knows best how to protect you and your children and your parents from disease, and to cure them when they are sick.

The erudition we claim for the profession demands a large library of constant growth. A fund of $100,000 will enable us to keep abreast with any similar institution. The library of the Surgeon-General's office in Washington, which contains at present seventy thousand volumes and one hundred and thirty thousand pamphlets, is the result of industrious and systematic collections. It is not much over twenty years old, but it is the richest and most complete medical library in the world. Still its annual appropriations for the purchase of books have seldom exceeded five thousand dollars. Thus a fund of $100,000 will enable us to procure nearly everything medical that appears in any land. Of that sum we have only $10,000. One-half of that sum was set aside by the Academy, the other half is a donation separately administered in perpetual honor of a departed one. Such special funds, or additions to our general library fund, are urgently requested. The citizens of New York have developed a metropolis of large size and commercial power; they can well afford to tax themselves in the interest of medical science, than which there is none more cosmopolitan and humanitarian.

But it is not the medical profession only which will be directly benefited by the endowment of a large and complete library. The intimate relations of the medical and legal professions are such that much of what we require is found in law books, and the lawyer has to look for much of his information in medical literature. Indeed, forensic medicine, which originated in law, has its main representatives in medicine. In both the names of Thenck and Tloucquet, Farr and Duncan, and our own Beck, and many others of more modern times, are household words. Moreover our library is a public one, free to the profession and the public. Now, there is a class of literature which in a free and public library like ours ought to be well represented. Laymen intending to avail themselves of it expect to find mental food adapted to their comprehension and taste. That sort of literature is by no means scarce. Much of it is of fair quality, some of it surpassingly good. Books on anatomical and physiological topics, those on subjects connected with natural history, hygiene, and statistics, will always be found interesting and instructive. They ought to be well represented in our library, for they cannot be found in large numbers in the public and circulating libraries. Indeed the frequenters of the latter differ much from the class of readers consulting ours.

The additional knowledge acquired in this manner will not only improve a man's ability to protect himself and his family, he will also facilitate the work of his doctor.

A person who has filled his mind with comprehensible ideas and sound facts will no longer study quack advertisements. He who has learned something about the functions of his body and been taught to consider the correlation of causes and effects, can appreciate a disease to be the result of either a preventable or an unavoidable cause, and recognize that whatever disease was not the result of faith cannot be cured by faith, not even by faith in panaceas. The business of the quack may thus cease, the nostrum-mixers may suffer, but individual and public health will be the gainers. There is less sickness in a man who has some knowledge of his body and its requirements; and when he falls sick he expects relief from natural and intelligible sources only. That man is a better patient, more accessible to reasoning, more obedient to the rules imposed in the interest of recovery. If he knows enough to recognize the superiority or inferiority of his physician, so much the better. To-day most people have not a sufficient knowledge to guide them in their selection; there are many who are so little informed that they do not so much as care. If in a matter ever so trifling a medical man is called as a witness before a court of justice, the first question he is asked refers to his membership in a medical society The uninformed public, however, often select their doctor for reasons known to nobody, least, perhaps, to themselves. All this would be changed if a small part of what is the basis of a physician's thinking and knowing were made accessible and intelligible to every man and woman. A library like that which we intend to establish, is destined not only to supply the professional man, but furnish healthy mental food to all those who are thirsty for knowledge. Those who have means to spare in the interest of public education, hygiene, and health, cannot possibly apply them better than by providing for a library fund sufficient for the gradual accumulation, from year to year, under the supervision of experts, of all the good popular literature on the subjects of anatomy, physiology, hygiene, dietetics, and statistics.

May all this become true! We are preparing this edifice to be the head-centre of medical study in the city, an example to the profession of the country, and a resort for the brethren who come to us from near or distant parts. This building when completed will be an ornament to the metropolis. What is still more important is that we mean it to become, and feel assured that it will be, an additional element of intellectual and ethical power, and in its results a blessing to the commonwealth.

## ON THE BACTERIOLOGICAL TEST OF DRINKING-WATER.[1]

By EDWARD K. DUNHAM, M.D.,
NEW YORK.

Our interest in the bacteriological examination of water rests upon the belief that by its aid we may detect the presence, in a sample of water, of bacteria injurious to health; but still more upon the well-founded hope that, through its assistance, we can, or soon shall be able to, estimate the chances that a given water-supply will, in the future, be contaminated with such bacteria.

It is this power of foreseeing danger which gives the test its greatest value, and it is to that power that I wish particularly to direct attention on this occasion.

In doing so, it may, I fear, be necessary to consider some of the details of the test more minutely than strictly accords with the general character of an address. But it appears as though the principles involved in the test could not be clearly manifest without some reference to the details of which they are in a great measure generalizations.

In the application of this test the greatest difficulty lies in the proper interpretation of the results obtained by the employment of some of the simplest of bacteriological procedures—namely, the isolation and counting of the living bacteria in a given bulk of the sample submitted to study. And, in practice, we find some diversity in the manner of interpreting results on the part of different observers. Some have contented themselves with a statement of the number of living bacteria found in a standard quantity of water, usually one cubic centimetre, and have condemned those samples which contained more than a number previously fixed upon through the examination of waters free from suspicion of injurious contamination.

Other observers have depended for their judgment upon the detection of species of bacteria of recognized pathogenetic character, considering, with justice, the presence of even relatively large numbers of non-pathogenetic bacteria as in itself a practically harmless circumstance.

The criticism to which the first of these two methods is open, is that it is too sweeping in its condemnation of those waters which contain more than a very few bacteria. For the numerical standard of good water must be set at a low figure in order to exclude some waters which are open to question; whereas, undoubtedly, many waters containing large numbers of bacteria are above suspicion.

The second method is open to the serious objection that, in order to give a decisive opinion, it depends upon the finding of species of bacteria which may be present in but small numbers, and which are then very difficult of identification in the presence of a number of other species. Therefore, although its verdict is conclusive when positive, its results can be of no value when negative; and, moreover, a negative result can throw no light upon the chances of a future contamination of the water supply with injurious bacteria.

There is a third method of interpretation which has a much higher aim than either of the two already mentioned, and which is capable of becoming more exact in proportion to the advances made in our knowledge of the part bacteria play in nature. This method endeavors to trace the past history of a water by means of a study of the bacteria it contains, in order to estimate the dangers of injurious contamination to which it has been exposed, and the extent to which natural processes of purification have been active in reducing those dangers.

In its application it involves the determination of the species of bacteria in the water, together with an, at least approximate, estimation of the number of individuals belonging to each one of those species present in a given bulk of the water.

Before proceeding to a more detailed consideration of this method, it appears desirable to give an outline of the technical steps taken in counting, isolating, and identifying the bacteria in water.

After the collection of the sample in sterile vessels, in such a way as to avoid its contamination with foreign bacteria, the first step in its examination is the preparation of "plate" or "roll-tube" cultures, which have for their object the separation, from each other, of the individual bacteria in the sample. This object is gained through the use of culture media which may, at will, be rendered either liquid or solid, without thereby endangering the vitality of bacteria scattered through them. The medium commonly used for this purpose is a jelly of considerable firmness, which has been rendered highly nutritious by the addition of meat extracts and peptone, and then rendered sterile by killing any contained germs with heat.

Definite quantities of the water are thoroughly mixed with several times their bulk of this jelly in a melted state, and the mixture then poured upon a cold, sterile, horizontal glass plate, where it quickly solidifies in a uniform layer, forming a "plate" culture; or the mixture is solidified in a thin, uniform layer upon the inner surface of a test-tube, by rotating the latter around its axis, held in a horizontal position, until the jelly has cooled. This, the "roll-tube," is a modification of, and serves the same purpose as, the "plate" culture.

By this mixing of the sample of water with jelly the

[1] Being the Address delivered before the New York State Medical Association, September 27, 1889.

bacteria contained in the former are separated and disseminated through the mixture, so that, when the latter becomes solid, each individual bacterium occupies a fixed, isolated position in the layer of solid jelly. If now these slates (or tubes) be set aside, under favorable conditions and protected from the intrusion of foreign bacteria, the bacteria contained in the jelly will multiply so rapidly that, in the course of a few hours, many thousand bacteria will have sprung from each bacterium originally imprisoned in the jelly.[1] But inasmuch as the descendants of each individual are confined, by the solid jelly, to the spot originally occupied by their progenitor,[2] it follows that in the course of time an accumulation of bacteria large enough to form a mass visible through the microscope, and later to the unaided eye, takes place at that spot. Such an accumulation is a "colony" of bacteria, and since it must necessarily be made up of individuals belonging to a single species,[3] it is a "pure culture," and serves as the starting-point of other pure cultures of the species in jelly or other media.

Fortunately, colonies of different species differ more or less in appearance, and in some cases species may be identified with considerable certainty by the gross or microscopic appearances of their colonies on the plate; but in most cases this is impossible, and the bacteria making up a colony must be submitted to further observation before it is possible to completely identify the species to which they belong.

After noting the facts which can be gleaned from an examination of the colony, small portions are removed by means of a sterile needle and planted in other culture media, where the growth of the species, as affected by differences in nourishment, temperature, and other conditions, may be observed. The colony on the plate also yields material for the preparation of stained or unstained specimens for the direct observation of the individual bacteria through the microscope, thus furnishing data as to their shape, size, mode of aggregation, and motility.

By procuring a sufficient variety of conditions under which the growth of a given species of bacterium is studied, it is possible to obtain enough data as to its characteristics to distinguish that species from all others. When this has been accomplished the given species has been identified.

The media in general use for these purposes are jelly, bouillon, agar-agar, a gelatinoid substance obtained from an oriental alga, potato, bread, and coagulated blood serum. All these media, except jelly, can be used for the cultivation of bacteria at the temperature of the body, without altering their physical condition, so that the modifications in the growth of the bacteria due to differences in temperature can be observed.

A question of a good deal of interest here confronts us: the question as to the proper conception of a species among the bacteria. Cultures of the same species may show considerable variations in their characters when subjected to different environments—variations so wide that they exceed what are in other cases regarded as specific differences. This question is too involved and technical for discussion on this occasion. For the purposes of the bacteriological test of water, the practical course is to regard any marked characteristic as specific. The object of the test being to enable us to judge of the past history of a water by means of the evidence furnished by the bacteria it contains, the particular conditions under which those bacteria have developed are a part of the knowledge we are seeking; and if variations in those conditions are recorded in corresponding modifications in the characters of the bacteria, those modifications may be as important to us as a real difference of species, and we may, therefore, provisionally, regard them as specific.

We have now rehearsed minutely enough, for our present purpose, the technical procedures involved in a bacteriological examination of water, and may now turn our attention to the nature and significance of the results obtained by their application.

If we trace the history of a given sample of water, we shall arrive at a point in that history when the water must have fallen as rain. Since water, when it evaporates, leaves behind it all suspended matter, it follows that any bacteria found in rain-water must have been washed from the air, or from the surfaces with which the rain came in contact. They were either in the atmospheric dust, made up of fine dry particles wafted into the air by currents, or they were upon the water-shed.

It so happens that bacteria are not all equally capable of preserving their vitality when subjected to the desiccation which must precede their presence in floating dust, and it follows therefrom that rain-water, except under extraordinary circumstances, will contain only species included in a group provisionally designated as "air bacteria," without implying that they are found only in the air. And, conversely, if all the bacteria in a sample of water are of species included in this group, the deduction that it has been exposed to none but aërial contamination appears reasonable, no matter how numerous the individual bacteria may be.

If we next imagine that the rain-water has fallen upon the ground and thence washed into streams, ponds, or open wells, it is evident that it will carry with it those bacteria which can be readily detached from the vegetation or the soil over which it has passed. In brook- or pond-water we may, therefore, look for not only air bacteria, but bacteria belonging to a second group of species representative of surface drainage.

While a portion of the rain-water runs from the surface, another portion sinks into the ground and eventually becomes blended with what is called the "ground-water." During its passage through the soil, most, and probably in many cases all, of the bacteria contained in it are caught in the interstices of the ground, or are subjected to unfavorable conditions and die. Observation has shown that ground-water is usually free from bacteria, or contains them in but small numbers; but when the soil is very pervious the ground-water may yield bacteriological results approximating those indicative of surface drainage.

The ground water underlies a layer of soil rich in bacteria, and is exposed to many chances of receiving them on its passage toward the surface, where alone it can be of domestic use. And it is during this passage to the surface that it is exposed to the greatest risks of contamination with sewage or excrementitious matter, which are especially liable to contain noxious bacteria.

In such a water the bacteriological test is capable of detecting the contamination and of determining its nature with considerable precision.

From a bacteriological point of view, admixture of sewage with a water can be injurious only when that sewage contains noxious bacteria. If, through any process, the sewage be freed from such bacteria, it will be deprived of all bacteric infectious qualities. The most common natural process by which sewage is freed of bacteria is filtration through the soil. If all the bacteria are removed the sewage can contain no pathogenetic species, but if they are not all removed and the sewage passes into a water-supply, the latter will be in danger of infectious contamination so soon as the sewage contains pathogenetic bacteria.

The detection of the contamination of a water-supply with sewage is of particular interest because of its relations to the possibility of infection with typhoid fever following the drinking of such a contaminated water.

We know of no general natural habitat of the typhoid bacillus. It may be that, in the future, some natural home or mode of development of that bacterium will be dis-

[1] There are species of bacteria incapable of growing in gelatine at ordinary temperatures. The presence of these species is ignored where gelatine plates are used for water analysis.

[2] There are exceptional species which swarm over the plate, so that distinctly isolated colonies are not formed.

[3] The certainty of this purity is proportional to the thoroughness with which the water was mixed with the melted jelly.

covered. When that knowledge has been acquired the bacteriological test of water can be applied so as to make practical use of it, but for the present we must consider the discharges from individuals suffering from typhoid fever as the source from which typhoid bacilli might gain access to drinking-water.

If the water were free from bacteria before the entrance of the typhoid bacilli, and the latter were not mixed with other species of bacteria, their detection would be simple and certain, and with the finding of them a bacteriological examination of the water would come to an immediate conclusion. But in actual cases the typhoid bacilli are associated with large numbers of fecal bacteria, and this mixture disseminated through a large bulk of sewage; the chances of identifying the typhoid bacillus are inestimably diminished by these circumstances, and we are, therefore, constrained to condemn water containing fecal bacteria, or those forms of putrefactive bacteria which are frequently found in sewage, even though they themselves may have no pathogenetic qualities, and even though the source of the water was apparently pure.

Simple and clear as are the principles underlying the bacteriological test of water, it does not seem superfluous to consider a few typical illustrations of their application to cases met with in actual practice.

I. A sample of water was found to contain an average of 496 bacteria in one cubic centimetre, a very large majority of which belonged to a single species—micrococcus caudicans—a very common air bacterium. There were but few other species present, most of which were recognized as common air species.[1]

The inference from such a result is direct: The water, a pure water, had been exposed to the air and then remained subject to conditions favorable for the development of the bacteria which had fallen into it until they had increased to the number found. This conclusion was confirmed by the fact that the sample, as was afterward learned, had come from a tank which was filled with water previously subjected to a very intelligent process of filtration. Some of this same water, after being bottled for a short time, contained 3,970 bacteria per cubic centimetre, among which five species were recognized, the majority of the individuals belonging to the single species caudicans.

No reasonable sanitary objection could be raised against this water, either before or after it had been bottled, although the number of bacteria found in both samples exceeded the usually accepted limit for good water.

Many of the air bacteria seem, after a time, to die out when introduced into water, as is exemplified by a sample of rain-water, which immediately after collection, during a gusty thunder-storm, contained 5,940 bacteria; while, after standing protected from dust for a few weeks, the number had fallen to two. On the first examination there was a large number of species present; on the second examination only a single species, common in both air and water.

II. Water from a sylvan brook, swollen after a heavy rainfall, contained over two thousand bacteria to the cubic centimetre, a large number of which proved to be bacillus subtilis, a species abundantly found on vegetation and in earth. There was also present a species frequently found in soil. No other species other than air species were found, and it was, therefore, concluded that the large number of bacteria was due to surface drainage innocent of injurious qualities.

III. A brook was examined at its source, where the water ran from a loosely covered cleft between two rocks; again about half a mile from its source, after it had wound through a grove and open fields; and again at a third point, about three-quarters of a mile beyond the second place of collection, and several hundred feet below a point where it received the drainage from some half-dozen dwellings.

[1] Bacillus luteus, yellow sarcina, micrococcus cereus flavus, and some not named.

At its source it contained 250 bacteria, among which there were several air species, a few of the more common water bacteria, also occasionally met with in air, and a few earth species.

Samples from the second point of collection contained 532 bacteria, similar in character to those at the source, but the water and soil species were relatively more abundant.

At the third point of collection the number of bacteria had risen to 4,773, and, besides the species found above, there were both fecal and putrefactive species present.

The correspondence between the results of the bacteriological examination of this brook and the history of the water is so close that, if we knew only those results and the order in which the samples came, we should be obliged to construct a history of the water essentially identical with that of this brook.

IV. The water-supply of a certain town is drawn from a series of driven wells, which are, with the single exception of one used for making observations on the level of the ground-water, connected in such a way that the water is pumped from them all collectively.

A sample of water taken from the main at the pumping-station contained two bacteria per cubic centimetre, while a sample taken from the observation-well contained five thousand. But the bacteria in the latter sample were all of one species—namely, the same species which has already been mentioned as persisting in a long-preserved sample of rain-water. According to our principles of interpretation, these samples must be regarded as equally free from suspicious contamination. The five thousand bacteria were due to an adventitious inoculation of the test-well with a harmless species capable of thriving under the conditions there prevailing. After stating that the bacteria present were of a single species, it is superfluous to add that the well was kept covered.

V. A deep artesian well, situated in the immediate neighborhood of a field irrigated with the sewage from a large public institution, was used as the water-supply for the inmates. The water had been repeatedly declared unsafe because of the high yield in total solids, chlorine, and ammonias obtained on chemical analysis. It was examined bacteriologically and found to contain very few bacteria, none of which represented species indicative of sewage contamination. There were no clinical indications that the water was unwholesome. In this case it appears that the natural filtration of the water through the soil sufficed to free it from bacteria.

VI. A stream which was drawn upon to furnish water to a town, was suspected of being contaminated with sewage because of an outbreak of typhoid fever in that town. Chemical analysis failed to furnish evidence of any such contamination, but the water was found to contain large numbers of bacteria belonging to a putrefactive species common in sewage. This result, while not demonstrating the presence of typhoid germs in the water, arouses a strong suspicion of a sewage contamination, which alone would be sufficient to declare the water untrustworthy.

In conclusion, it is evident that the bacteriological examination of a water cannot, save under exceptional circumstances, pronounce a direct verdict as to the sanitary value of that water. Its legitimate province is the discovery of the relations existing between the water and the natural or fortuitous distribution of the various species of bacteria. The significance of those relations must be determined by our knowledge of the causation of disease.

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PROGRESS OF CREMATION.—There are now thirty-nine crematories in various parts of the world. Italy has twenty-three, America has ten, while England, Germany, France, Switzerland, Denmark, and Sweden have one apiece. In Italy there were two cremations in 1876; the number rose to fifteen in 1877, and in 1888 the number was 226. Since 1876, 1,177 cremations have taken place in Italy, while the combined numbers from all other countries bring the total only to 1,269.

## A FEW CLINICAL CASES SHOWING THE VALUE OF OXYGEN COMBINED WITH NITROGEN MONOXIDE IN THE TREATMENT OF PULMONARY AND OTHER TROUBLES.

By E. C. TITUS, M.D.,

NEW YORK.

In The Medical Record of July 6th there appeared a very able article by Professor W. Gilman Thompson, showing a series of experiments with oxygen upon animals, and the conclusions arrived at as a result of those experiments. The conclusions were in the main such as I have demonstrated repeatedly by clinical experience. In the treatment of pulmonary complaints the tendency at the present time is toward local medication. This arises principally from the general acceptation of the germ theory, which teaches in the main that diseases originate from micro-organisms, and the belief that from this it must follow, as a necessity, that these micro-organisms must be destroyed or rendered harmless to organized tissues, either as a means of cure, or as a prophylaxis to such a disease. For these reasons attention has been directed more particularly to the study of means whereby antiseptics or germicides may be made to reach disease-germs in the lungs more directly and safely than has hitherto been known.

If tuberculosis depend upon the presence of infectious organisms in the tissues, then certainly the most rational mode of treatment in phthisis must include the administration of antiseptic agents. The most powerful antiseptic known to science is oxygen, for in an atmosphere of oxygen it is impossible for disease-germs to exist.

It has been found by clinical experience that oxygen is less irritating and more readily absorbed when combined with a certain equivalent of nitrogen monoxide. The proportions that I have found most valuable are two parts pure oxygen and one part nitrogen. In order to obtain good results, it is of the utmost importance that these gases should be absolutely pure. Pure oxygen I believe to be too powerful an oxidizing agent when used alone; especially when there exists inflammation in the air-passages. In cases of poisoning from hydrogen gas, however, it is better to use it undiluted. Nitrogen monoxide is valuable as a modifier of pure oxygen, and has a soothing effect upon the nervous system. It renders the oxygen with which it mingles more assimilable, and hence more promptly available in the general system. The discussion at the New York Academy of Medicine, following the reading of Professor Thompson's paper, was interesting in showing how generally this agent is now being used by the most advanced men in the profession. Its usefulness as a therapeutical agent may be shown by quoting the remarks of those gentlemen who engaged in the discussion. Dr. J. West Roosevelt said that in the simple anæmia of girls he found patients do better under the use of oxygen in connection with administration of iron than under iron alone. That opinion was shared by Dr. Francis Delafield, expressed some months ago at the Academy. Like Dr. Thompson, he had seen marked beneficial results where the amount of breathing service was diminished. Dr. George L. Peabody was of the opinion that oxygen inhalations were most useful in certain maladies attended by extreme dyspnœa, such as catarrhal bronchitis, asthma, pleuritic effusions, etc. Dr. Beverley Robinson thought he had seen absolute proof of the direct, immediate therapeutic action of the inhalation of oxygen in anæmia, in conjunction with iron. In a very large number of cases digestion and assimilation were improved, and in so far as it did that, it seemed to have a wide field of utility. In phthisis he believed it had no direct curative effect, but he thought it proper to use it, because, first, it forced patients to expand their lungs; second, because there was reason to believe it might act in some degree as an antiseptic; third, that it was useful in improving the nutrition. In cases of phthisis with partial consolidation, with fever, night-sweats, and cough, the administration of oxygen will be followed by a decline of the daily temperature, subsidence of the night-sweats, improvement of appetite, and more perfect digestion and assimilation; patients are taught to breathe more perfectly, which is invariably followed by increased lung expansion. The method of administration is important. The patient should be instructed to expel as completely as possible the air from the lungs, and then inhale deeply, and after fully inflating the lungs it should be held as long as possible before being expired through the nose; there should be an interval of two minutes between each inhalation; this method is applicable to the treatment of phthisis and anæmia. In pneumonia it should be administered continuously from three to five minutes, and as frequently as the urgency of the case demands.

I quote a few cases taken at random from my note-book, which will suffice to show the general action of this agent.

Case I.—A gentleman, aged thirty, an actor by profession, slight in stature, family history negative, was obliged to remain most of the time in the Northwest, because of pulmonary trouble. Whenever he returned to his home in the East his trouble was invariably aggravated. A physical examination revealed the following condition: Consolidation of the left apex anteriorly as far down as the nipple line; also evidence of small cavity in the upper part, and moist râles throughout the lung; incessant cough, profuse expectoration of muco-purulent character, daily abnormal temperature, followed by profuse night-sweats, and rapid emaciation. Began inhalations of oxygen for from fifteen to twenty minutes twice daily. At the end of one week the night-sweats had materially diminished, cough less severe, and general condition much improved. At the end of six weeks' treatment he had improved considerably in general condition and weight. An examination of the lungs showed that the induration had very much decreased, no evidence of cavity, and almost an entire absence of râles. Physical examination at the end of ten weeks showed that the consolidation had entirely disappeared, no vestige of the former trouble remaining, and he was apparently a well man. No return of his former symptoms have developed up to date, which is now more than a year; the only treatment he received, other than the inhalations, was the iodide of iron.

Case II.—A gentleman, aged thirty-two, by occupation a civil engineer, of phthisical family; five years ago had an attack of pleurisy with effusion, which left a carnified condition of the upper part of the right lung. Three years later began to lose flesh; a cough from which he had never entirely recovered became worse, accompanied by profuse expectoration, rapid loss of flesh; daily temperature reaching as high in the afternoon as 103° F., followed at night by profuse sweating. Patient was advised to go to Colorado; after remaining there some months, without improving, he returned to New York thoroughly disheartened, having given up all hope of ever getting well. Placed him upon inhalations of oxygen and nitrogen monoxide, as in the former case. Its use was marked by an increase of the expectoration for the first week, after which time it gradually decreased; the appetite, which was entirely gone, improved rapidly; the afternoon fever and night-sweats disappeared at the end of the fifth week, with gradual improvement in the general health, and slight gain in weight. The breathing at the commencement of treatment, which under forced inspiration was very limited, painful, and accompanied by a disposition to cough, gave place to easier and painless respiration. Patient has been under constant treatment since November, 1888. The last two months he has been able to attend to his business daily, and has exposed himself repeatedly to inclement weather without any return of his former symptoms. A slight cough remains, which, I believe, is due to the presence of pleuritic adhesions. One thing further I would mention, the chest expansion under forced inspiration was increased from one and a half to three and a half inches.

Case III.—Young lady, aged twenty-three, suffering

from an extreme form of simple anæmia, which had resisted a thorough employment of the usual remedies, combined with good food and plenty of fresh air; was consulted because of amenorrhœa, loss of appetite, feeble digestion, and irregular action of the bowels; could not take proper exercise without marked dyspnœa. A thorough examination excluded all organic causes. Having tried iron, arsenic, and strychnine with but slight and only temporary improvement, I concluded to try inhalations of oxygen in conjunction with the above-mentioned remedies. To my satisfaction, and to the patient's great delight, improvement began almost immediately in the appetite, digestion, and assimilation; the pallor of the face gradually gave place to a healthful rosy complexion, with disappearance of the dyspnœa, and at the end of three months' treatment the menses were perfectly re-established.

In the treatment of pneumonia I have used the combination of oxygen and nitrogen monoxide with marked benefit. It quiets the action of the heart, greatly relieves the dyspnœa, enabling the patient to breathe more freely and deeply, and promotes free expectoration. The following case, taken from a number so treated, and cited because of its extreme form, will suffice to demonstrate the beneficial effects of this mode of treatment.

A gentleman aged sixty-three, of robust habit, was taken ill with double pneumonia. Recognizing the case to be of extreme gravity, because of the rapid respiration and the early development of delirium, with a rapid, feeble, and irregular pulse, I immediately began the use of oxygen and nitrous monoxide, with stimulants, and other remedies. At first the inhalations were given very frequently, as often as every fifteen or twenty minutes, and for a period of from three to five minutes at a time. After using a few times, the patient became more quiet, the breathing easier and less rapid, with clearing up of the cyanosis, and abatement of the delirium, and free expectoration. The remedies were continued through the night. The following forenoon patient expressed himself better, and very much relieved by the inhalations. The remedies were continued through the course of the disease, at either longer or shorter intervals, as the exigencies of the case demanded, and was always followed by an amelioration of the urgent symptoms. During the period of convalescence the patient seemed to gain strength more rapidly by a continuance of the inhalations, and made a perfect recovery. This case was seen with me in consultation by Drs. Thomas E. Satterthwaite and W. A. Shufelt, who heartily endorsed the line of treatment.

Sufficient has been said to show the efficacy of this agent in the class of cases above mentioned. Dr. Thompson cited in his paper the great benefit that was derived from the use of oxygen in the treatment of cholera, during the epidemic at Marseilles and Toulon in 1886. If such was the case, why should it not be a most excellent agent to be used in the treatment of cholera infantum, especially during the period of collapse? I am convinced that oxygen as a therapeutic agent has not received the attention that it merits, and I agree with Professor Thompson, that no consideration of expense should weigh against it.

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Massage in Rickets.—Dr. Silfverskiöld speaks very favorably of massage in the treatment of rachitis. He begins with the lower extremities, using considerable pressure in a direction from below upward, and making energetic passive movements of the ankle-, knee-, and hip-joints. He then passes to the abdomen, thorax, neck, and upper extremities, exciting increased respiratory movements by making pressure on the chest. Each séance lasts for from ten to fifteen minutes, and the treatment is continued through a period of from four to six weeks. At the beginning, the patient usually complains of pain during the manipulations, but this soon passes away. The author claims to have obtained excellent results in a number of cases.

## INTUSSUSCEPTION AND THE USE OF INJECTIONS.

By W. E. FOREST, M.D.,
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In The Medical Record for August 3d is reported a case or intussusception in a child relieved by the use of sulphuretted hydrogen gas from a Bergeon apparatus. It is stated that this is the first case, as far as known, where the Bergeon apparatus has been used for this purpose in this State.

However admirable this method may be in the treatment of the condition in question, if another method can be shown to be as effective and more safe, more simple, and more scientific, the former should give way to the latter.

Without further introduction, I will suggest to Dr. Rodenhurst and the profession in general, a method that will meet the requirements mentioned.

In using injections of either gas or liquid to overcome intestinal obstruction, one ought, if possible, to know two things, namely: 1st. How much force (approximately) the intestine will stand without danger of rupture. 2d. How much force one is using at any moment in giving the injection.

As to the first point, a series of experiments made by me and detailed in a paper read before the New York Academy of Medicine, and published in the *Journal of Obstetrics* in 1886, would seem to show that it is not safe to use an injection with a pressure exceeding fifteen pounds to the square inch in a case of intussusception, and this only in adults. In infants the pressure should not exceed six or eight pounds to the square inch (see *Journal of Obstetrics*).

Now, with the Bergeon apparatus a greater pressure than the above might be used, I suppose. With the Davison syringe I have shown that a pressure of from thirty to seventy pounds to the square inch may be exerted on the intestine, and hence a very dangerous pressure.

The objection to the Bergeon apparatus, aside from the fact that one cannot measure and regulate the pressure accurately, is its cost and cumbersomeness as compared with the apparatus I have suggested in the article referred to.

In order to measure the pressure used in an injection, it is only necessary to remember that one atmosphere, or fifteen pounds to the square inch, supports a column of water thirty-three feet high; hence a column of water thirty-three feet high will make a pressure of fifteen pounds upon every square inch of surface at the base of the column.

Now, if this column of water be held in a rubber tube of ordinary size, after allowing for friction of the water in the tube, it will be accurate enough to say that every two feet of the column represents a pressure of one pound to the square inch; hence a rubber tube six feet long, filled with water and held vertical, will cause a pressure of three pounds to the square inch at its base; and a tube twelve feet long will exert a pressure of six pounds to the square inch at its base; and so on.

Now, apply this principle to a case of intussusception in a child, for instance. The surgeon, instead of sending to the nearest city for a consultant and a Bergeon apparatus, goes to the drug store or hardware store and gets a rubber tube twelve to twenty feet in length. Into one end is inserted a funnel; into the other a nozzle of a Davison syringe. In order that the injected fluid may be retained, a shoulder may be made on the nozzle about one inch from the end, by winding a roller-bandage around. This shoulder will retain every drop of the injection when pressed against the sphincter. Now a pitcher of warm salt-water completes the apparatus, and the father of the child is the assistant surgeon. The patient is taken into the hallway of the house, so that the requisite elevation may be gained, the child is etherized, the surgeon inserts the nozzle of the syringe and holds it in the rectum with

one hand, while with the other he manipulates the walls of the child's abdomen. The assistant pours the water into the funnel and slowly raises it, mounting the stairs at the time if necessary. When the funnel has been raised twelve feet above the level of the child's body, great care should be exercised, as the pressure is now about six pounds on every square inch of colon below the obstruction. It is seldom that a greater pressure than this will be needed to reduce a recent invagination. The pressure should be increased very slowly, as time is an important element in reducing an invagination.

If in any case the pressure mentioned above does not bring about the end aimed at, the pressure may be increased up to ten pounds to the square inch.

For further details as to the method and when to employ it, as well as for a simple and cheap method for generating gas and its use in reducing an intussusception, I must refer to the article in the *American Journal of Obstetrics* for 1886.

In that article are the histories of two cases of intussusception successfully reduced by gaseous and fluid enemata introduced from a syphon of Vichy water.

Since publishing the method for the use of a column of water, Dr. A. S. Hunter, of this city, has used the method successfully in a case of invagination in a child.

105 Waverley Place.

## Progress of Medical Science.

Parasites of the Blood.—A Russian scientific observer some years since discovered in the blood of birds animate bodies, of the nature of parasites, to which he has given the name of *Polimitus*, presenting a striking resemblance with the organisms described by M. Laveran as existing in the blood of persons attacked by malarial fever. Subsequent researches have shown that the presence of microbial parasites of animal origin in the blood is much more common than had been suspected, more especially in cold-blooded animals. Of warm-blooded animals, carnivora are more liable to be invaded by these intruders than others, but it is comforting to learn that, for the most part, their presence does not appear to entail any particular inconvenience. Only four or five out of three hundred birds examined, died in consequence of lesions caused by the parasites, and the pathological appearances were then identical with those observed in the subjects of malarial fever.—*The Medical Press.*

Thiol, a Rival of Ichthyol.—Ichthyol has found a rival in thiol, a new product of chemical synthesis, obtained by artificially sulphuretting unsaturated hydro-carbons, and charging these with ten per cent. of sulphur (*The Provincial Medical Journal*). Chemical and therapeutical researches prove its exact identity with ichthyol. Thiol consists of a brown fluid of the consistency of syrup; it is completely soluble in water, is totally inodorous, and has therefore a decided advantage over ichthyol. There exists also a dry thiol, which has two and a half times the strength of fluid thiol, otherwise having the same properties as the latter. Thiol is used like ichthyol in the following diseases: Acne, acute and chronic rheumatic arthritis, other rheumatic affections, contusions, decubitus, eczema, erysipelas, neuralgia, ischia, leprosy, frost-bites, prurigo, pruritus, ulcus, cruris, burns, and scalds. On the initiative of Schweninger, thiol was tried at the Charité Clinic of Berlin, and Dr. Reeps reports on these trials in a very favorable light, as does also Dr. Buzzi, whose opinion is based on an even more extended clinical experience. Dr. Reeps states that it may safely be concluded that thiol, externally applied in skin diseases, has positively the same effect as ichthyol. As their effect in these instances is identical, it may also be assumed that thiol will prove equally efficacious in other diseases where ichthyol has been employed. Reeps has taken internal doses up to two and a half grammes without discomfort or disturbance of the stomach; and he believes, therefore, that it is comparatively harmless. It has been asserted lately that this is not the case with ichthyol, but he ascribes the adverse physiological effects of ichthyol to its obnoxious taste and odor, and these are entirely eliminated in thiol. He does not consider there is any further doubt that thiol and ichthyol are two exactly identical substances, and that thiol will serve to replace ichthyol when the natural sources of the latter remedy become exhausted; even now the discovery may be recognized as a great boon, which makes us independent of nature's supply of this valuable remedy. The following are the usually prescribed formulæ:

℞. Thiol ..... 3j.
Vaselin ..... 3j.
Lanolin ..... 3j.
M. F. ungt. S.: For external use.

℞. Thiol sicc ..... gr. ij.
Pulv. glycyrrhizæ ..... gr. ij.
Glycerin. tragacanth ..... q. s.
F. pilula. S.: One pill to be taken three times a day.

℞. Thiol sicc ..... 3j.
Zinc oxid ..... 3ij.
Amylum ..... 3j.
Talc ..... 3ij.
F. pulv. S.: The affected parts to be dusted with this powder.

Male Fern and Calomel for Tape-worm.—In the treatment of tænia Dr. Duchesne strongly recommends male fern combined with calomel, according to the following formula:

Eth. extract male fern ..... 2 drachms.
Calomel ..... 12 grains.
M. Make 16 capsules, which are given two at a time, every ten minutes until all are taken.

The great advantage of this preparation is that the patient has nothing to drink, and that the purgative is taken along with the worm-medicine. For some people, especially women, capsules are difficult to take, in which case the medicine is perhaps best taken with molasses. Sometimes the capsules provoke colicky pains, but these can be avoided by taking twenty grains of antipyrin fifteen minutes before the capsules. With these capsules Duchesne has yet to experience his first failure, and he has already used them in hundreds of cases. Male fern is the only remedy that will successfully expel the bothriocephalus. The treatment of tænia in children is a difficult matter, but he has been regularly successful with the following plan: After fasting twelve hours, administer the following preparation to a child of five years:

Eth. extract of male fern ..... 1 drachm.
Calomel ..... 6 grains.
Sugar ..... 2 drachms.
Gelatin, q. s. to make a jelly of ordinary consistence.

The patient should be told to take an injection of salt water when the worm appears at the anus, and then sit over a vessel of warm water to float the worm and prevent it breaking from its own weight. The one point always to be remembered, on which success depends, whatever the vermifuge used, is the necessity of administering the purgative soon after the substance which stupefies the worm.—*The Weekly Medical Review.*

Menstrual Optic Neuritis.—Dr. E. Beck (*The Cincinnati Lancet Clinic*) has reported several cases in which optic neuritis has resulted from menstrual anomalies. He arranges them into several groups. 1. Cases which occur in young girls, when the menses fail to appear. 2. Cases which occur in young women, with tardy, scanty, and irregular menstruation. 3. Cases which occur in amenorrhœic women. 4. Cases which appear immediately after the sudden suppression of the menses from cold, fright, or any cause. 5. Cases caused by dysmenorrhœa. 6. Cases caused by metrorrhagia. There is finally a small group of cases in which chronic metritis has led to early atrophic changes in the uterus, scanty, irregular menstruation, and sterility.

ATHREPSIA: A WASTING DISEASE OF CHILDHOOD.—In the *Revue mensuelle des Maladies de l'Enfance* Dr. Legournet has published an article on athrepsia, a *résumé* of which appears in the *Archives of Pediatrics*. Athrepsia is a morbid condition of infants which is characterized by disorders of digestion and nutrition, and results in defective or improper alimentation. The most striking symptom in the physiognomy of an athrepsic patient is emaciation. The child loses weight rapidly, and may lose as much as twenty or thirty grammes daily. Parrot divided the disease into several periods and recognized several degrees in the gravity of the disease. It frequently begins at the end of the first week of life, the process of denutrition or innutrition being consecutive to that which existed at birth. If it is remembered that for the first few days after birth an infant normally loses thirty or forty grammes daily even with a good nurse, this loss being rapidly made up in the succeeding period, it is easy to understand how great the loss in vitality must be to infants who lose much more than that and then fail to gain correspondingly in the succeeding days. Such children may live from three to six weeks, being apparently at death's door all the time, and becoming more and more feeble and emaciated. In the grave form of athrepsia one may distinguish three periods—one which is marked by the phenomena of indigestion and by green diarrhœa; a second which is marked by vomiting, muguet, erythema of the scrotum, the thighs, and the anal region, emaciation, and chilliness. If suitable food be given it is possible to restore the child even from such unfavorable conditions. The third period is that of cachexia, and is followed by death from exhaustion or from complications which intervene. The rapid form of athrepsia is the most common one, the child succumbing in three to six weeks. In the slow form the child may even gain weight in spite of bad hygiene, and may reach the age of several months, dying without complications. The author distinguishes an acute athrepsia from the rapid variety by the fact that in the latter the infant has never been able to profit by the food which was given him, while the other made irregular progress, the regimen being tolerated for a while, and then giving rise to gastro-intestinal disorder. The latter will die unless suitable dietetic changes are made; the former may be able to exist without much change of diet if he survives the gastro-intestinal attack. But a child who survives this bad usage is very likely to show the effects of it in his physiognomy, his bearing, his functions, and his nutrition. Such children become rachitic, have pulmonary or other serious troubles, their teeth appear late and are badly developed, and the individuals themselves usually die young. The disease is easily diagnosticated. A child who does not digest at all, or digests badly, and instead of improving emaciates and loses weight, or gains very slowly, has athrepsia. Vomiting and diarrhœa are not the only symptoms, for such symptoms are present in simple enteritis or in gastro-intestinal disease, or in infantile cholera, for these are accidental conditions resulting from errors of diet, from heat, and indigestion. The digestive troubles in athrepsia are the expression of a morbid state which is brought about by a defective regimen. In order to thrive, an infant should gain twenty to thirty grammes in weight daily for the first four months of life. If he gains less than that, his condition may become a serious one at any time. The lesions in athrepsia are those of violent gastro-enteritis, ulcerations, ecchymoses, softening and granular infiltration of the mucous membrane of the digestive tract. Finally, there are thromboses, interstitial hemorrhages, and steatosis of the kidneys, lungs, liver, and brain, all of which indicate an acute or chronic inflammation of the digestive tube, and the trophic disorder which accompanies the final cachexia. The mortality from this disease is very great. In the author's district, which includes a population of four thousand, about one-third of the deaths under one year of age, and one-seventeenth of the total number of deaths, were from this cause during a given period. All the infants were bottle-fed. The statistics of the entire city of Paris were even more astonishing, for there nearly two-thirds of the infants are bottle-fed.

THE ELIMINATION OF MORPHIA BY THE STOMACH.—Dr. Alt, of Halle, gives his researches on the elimination by the stomach of morphia injected subcutaneously. Hitzig had noticed that a dog which had licked up the vomit of another which had been narcotized by morphia injection also vomited a short time thereafter. This led Hitzig to believe that, notwithstanding the very short time between the injection and the vomiting, a considerable portion of the injected morphia had been eliminated. Men do not all react in the same way to morphia—some vomit, others do not; and authors explain this by saying that a part of the morphia is converted, in the circulating blood, into apomorphia, or that the preparation used is impure. None of them seem to think that the vomiting may be a reflex act setting out from the gastric nerves. Dr. Alt made many experiments, and found that in dogs morphia injection caused, in a few minutes, vomiting, and that a considerable portion was eliminated as morphia by the stomach. Before the injection the stomach was carefully washed out, and at short periods after it samples were taken and tested. The conclusions at which he has arrived are the following: 1. After subcutaneous application of morphia, it is eliminated by the stomach. 2. This elimination begins in two and a half minutes, lasts for half an hour, and ceases in one hour. 3. The inclination to vomit begins when the morphia appears in the stomach, and may be prevented by washing it out. 4. The quantity thus eliminated amounts to about half what is injected. 5. Poisonous results are much lessened by washing out the stomach, and deadly doses were thus borne without harm. These propositions are true of dogs, and to a great degree also in man. The practical importance of these researches lies in the fact that washing the stomach will be found of the greatest use in opium-poisoning, and that the medical jurist should in future search for the poison in the stomach instead of the blood, even when it has been given subcutaneously.—*The Edinburgh Medical Journal*, August, 1889.

THE FOOD TREATMENT FOR INSOMNIA.—Dr. Eggleston says that most students and women who are troubled with insomnia are dyspeptic, and he has found it easy to successfully treat such cases without medicine. They are instructed to eat before going to bed, having put aside work entirely, at least an hour before. If they are not hungry, they should simply be instructed to eat; and if they are hungry, they should eat whatever they want. A glass of milk and a biscuit is sometimes all that can be taken at first, or a mashed potato buttered. In a short time the night appetite will grow, and the appetite will then need no particular directions. If possible, the night meal should be taken in another room than the sleeping apartment, and for men in the city it will be found advantageous to go out to a restaurant. The idea of going out for something to eat and having to wait a short time for it will excite the appetite. Before eating, however, a bath should be taken; I much prefer cold or cool baths, which should be given with a sponge or stiff brush, and the body thoroughly rubbed off with a coarse towel afterward. The bath need not be more than five minutes in duration. . . . After the bathing and rubbing, or after eating, a moderate amount of exercise should be taken. For this a few minutes with Indian clubs or dumb-bells is sufficient. Further than this, the patient should go to bed at the same hour every night, and arise at the same hour every morning. . . . There is a popular superstition that grown people should not eat immediately before going to sleep; that it will give them indigestion or nightmare, or both. Dr. Eggleston cannot see why adults should be so very different in this respect from babies. We know that young children awake at night, and must have something to eat before they will sleep quietly; and some children actually fall asleep with a nursing-bottle leaking into the

mouth. It may be true that digestion is carried on slowly during sleep, and that the digestive function is less active, but here one need not be in a hurry for the completion of the operation. The average person should be in bed seven or eight hours, which is time enough for the digestion of almost anything edible. In our American life, he thinks, the digestion carried on through sleep probably has the better chance for thoroughness.—*Journal of the American Medical Association.*

THE EFFECTS OF ACIDS ON THE FUNCTIONS OF THE STOMACH.—1. Acids throw down a considerable precipitate of mucus. 2. They increase the cellular elements of the gastric contents. 3. Their introduction is followed by butyric-acid reaction, most marked after hydrochloric acid. 4. Larger quantities of the acids result in a considerable effusion of bile into the stomach. 5. They stimulate the secretion of pepsin, but have no influence upon the secretion of hydrochloric acid. 6. Their long-continued administration is followed by marked diminution of the secretion of hydrochloric acid. 7. Even in large quantities hydrochloric acid produces no gastric disturbances. On the contrary, a continued administration of the acid is attended with a feeling of well-being. 8. The difference in the effect between acids and the alkaline salts on the gastric functions consists in the fact that the alkaline salts dissolve the mucus and decrease the secretion of pepsin, while the acids precipitate the mucus and increase the secretion of pepsin. The disappearance of the alkaline salts from the stomach is followed by a decided increase of the hydrochloric-acid secretion. This does not occur, or only to a slight degree, in the case of acids. Both the acids and salts, in large quantities in continued use, have the same effect in lowering the activity, and finally in destroying the function, of the glands secreting hydrochloric acid.—*Jaworski, in Centralblatt für Klinische Medicin.*

THE EXCRETION OF URIC ACID AND ITS RELATION TO MENTAL DEPRESSION.—In the London *Practitioner* Dr. Haig has published a paper on the relation between the excretion of uric acid and mental depression. The author has published his researches on the relation of certain forms of headache to the excretion of uric acid ("Medico-Chirurgical Transactions," vol. lxx.), and he now shows that the mental condition of many patients depends on the amount of uric acid in the blood. When the acid is in excess it produces marked depression or irritability of temper; when this excess passes off, there is a feeling of exaltation and sense of well-being. Many suffer from a certain amount of mental depression and heaviness at that time of the day at which the excretion of uric acid is normally at its greatest, that is, in the morning between breakfast and lunch, during the time the acidity of the urine is lowest. This corresponds in every way to the condition artificially produced by giving alkalies, which wash uric acid in excess into the blood, so inducing depression; by giving acids sufficient to counteract the alkalinity of the blood, the heaviness and depression will give place to feelings of well-being, mental clearness, and pleasure in living. When the blood is strongly alkaline, and in a condition to hold much uric acid in solution, all the symptoms of mental depression are present, and are more or less marked according to the amount of acid present, the excretion of uric acid in the urine being at the same time proportionally in excess of the average. When a dose of mineral acid has been taken the mental conditions clear up exactly in proportion as the uric acid is cleared out of the blood, and its excretion in the urine diminishes. When a dose of acid has been taken to cure a headache or a fit of mental depression, it is extremely common for some amount of shooting pain in the joints to be present while the acid is driving the uric acid out of the blood. By reducing suddenly the alkalinity of the blood in this manner, it is very common for the uric acid in the tissues of the joints to be deposited in the joints instead of passing off in the blood. In the treatment of cases of mental depression, where it is evident that the excretion of uric acid plays the chief part, it is not always certain that a dose of acid taken now and then will produce a cure; the prevention of the excessive formation must be aimed at by regulating the diet. A large amount of butcher's meat should not be allowed, but should be replaced by fish, fowl, and milk, and stimulants are to be avoided. In many severe cases the author has met with great success by insisting on a diet of bread, butter, milk, potatoes, and a large quantity of fruit, continued for weeks or months. At the beginning of this treatment the washing out of the uric-acid stores may be hastened by giving about fifteen grains of salicylate of sodium three or four times a day, or in some cases a dose of twenty grains every night is sufficient.

PUERPERAL ANÆMIA AND ITS TREATMENT WITH ARSENIC.—Dr. Osler (*Boston Medical and Surgical Journal* and *American Journal of the Medical Sciences*) says that of the twenty-one cases of pernicious anæmia of which he has notes, nine were in women, and in five of these the condition developed post partum. One of them he reports, by way of illustration. The patient began and continued to grow anæmic after confinement, could not sit up in bed without fainting, had constant vomiting and uncontrollable diarrhœa. Under the continued administration of Fowler's solution she steadily improved and became robust and of a good color, though iron had previously been given without any benefit whatever. The author then reviews the history of the employment of arsenic in pernicious anæmia, and calls attention to the fact that we do not fully understand the reason why the drug should be so useful in some cases and so useless in others. It certainly has often an effect in profound anæmia much resembling that of a specific; like that of quinine in ague, and iron in chlorosis. The initial dose should be five drops, increasing gradually to twenty or thirty drops three times a day. Puffiness of the eyelids, œdema above the eyebrows, vomiting or diarrhœa, indicate that the drug should be suspended for a time. Sometimes arsenious acid is well borne, when Fowler's solution disagrees with the stomach. The point of greatest importance is that the medicine must be given for long periods and in increasing doses. In post-partum cases recovery is always slow, and it is well to intermit arsenic for a few weeks; but it should be given at intervals for many months, even when the health is apparently re-established, as there is a well-recognized tendency to relapse in these cases.

FORMATION OF MELON-SEED BODIES IN JOINTS AND TENDON SHEATHS.—Considerable light has recently been thrown by Schuchardt on the mode of production of these bodies. After criticising the generally accepted views of their formation by fibrinous deposition, he gives at some length the results of his own microscopical examination of specimens that have come under his notice. His researches seem to show that the mode of their origin is essentially different from that which has been just alluded to. They either consist really of altered portions of the lining membrane of the walls of the cavity itself in which they are contained, or they are developed in connection with the tendon sheaths; while a careful examination of them shows that coagulated fibrin does not really enter into their composition. In more than one instance the lining membrane of the joint was found to be covered with a viscid substance more or less laminated in character, and here and there already causing adhesions to take place between the opposing surfaces of the joints. These glutinous masses appear to be composed of partially "necrosed" portions of the joint-wall, which, instead of passing away, remain connected with the wall and likewise become attached to one another. The movements of the surfaces of the joints upon each other then cause these bodies to drop into the joints, where they lie loose as melon-seed bodies, and if the joint is in a fairly healthy condition they may be evacuated, and leave behind a good and useful jolnt.—*The Practitioner*, June, 1889.

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## CONCERNING SUITS FOR MALPRACTICE.

JUDGING from what we hear from different parts of the country, suits for malpractice are becoming alarmingly frequent. There appears, in fact, to be an epidemic of them throughout the West.

The question, What is to be done under the circumstances? is one fraught with painful interest. To every thinking man one thing is always evident, that in order to protect the profession the persecuted members of it should not be allowed to suffer. The profession in any neighborhood cannot afford to allow a verdict to be taken against a defendant. We say this much with becoming earnestness and deliberation. The attorneys generally believe that the members of the medical profession always stand by each other in such trials. This is as it should be, because we can always give the benefit of the doubt to the right side.

It is a rule, to which there is scarcely an exception, that the surgeon (for it is he who is most frequently prosecuted) always does the best he can for the patient, be the latter rich or poor. No man would be foolhardy enough to do otherwise. Fortunately the court allows this in almost every suit that is brought, although alleged negligence on the part of the plaintiff is generally one of the important counts in the indictment. We are pleased to note that, in spite of the most strenuous efforts on the part of the prosecution, this charge is seldom substantiated. Most of the tenable charges are also based on unskilful treatment and gross ignorance of the requirements of the case. We say it for the comfort of those who may now be under the ban, that it is in the vast majority of instances exceedingly difficult to prove this. A distinguished author once truly said that the most directly opposite views upon any scientific question could be proven by competent authority. The lawyers know this, and the surgeon must profit by it. The burden of proof must always be upon the side of prosecution. The defence, being forced into the position of expecting no quarter in the fight, has a right to retaliate by giving none.

It is easy to see that, except for some outside help in the way of medical testimony, the prosecution will have no show. And here let us pause in commiseration of the man who can use his scientific knowledge and experience against his brother in time of trouble. To our mind there is never any exculpation for this, even if the persecuted man be a successful rival or the successful professor of another school. No motive, however personal or exasperating, can excuse such Judas business. The man who is persecuted always has our pity, but the wretch who lends his ammunition to the enemy richly deserves the contempt of every fair-minded medical man. By his attitude in fouling the nest in which he is hatched, he may so load his own wings as to cripple his flying forever—and he generally does. If this Judas element could be eliminated, very few, if any, indictments would be possible.

In some charity for such personages, we are willing to admit that they are sometimes compelled to take opposite sides by their open criticism of another's work. Nothing is easier for an envious brother, afflicted with *caput tumefactum*, to magnify his office at the expense of the misfortune of a rival. Of course, when caught up by the shystering lawyer, it is too late to escape from wrongdoing, and he is expected to swear to the point with directness and force. It is then the last and only resource of the traitor and sneak. There is one such in almost every malpractice suit. So much, then, for the so-called professional expert on the other side.

It is a comfort, however, to the defendants to know that very few verdicts are rendered against them. We are speaking now of properly qualified men, who should not be blamed for bad results. The law expects of no qualified man more than he can do, with the use of his best judgment and skill, in the treatment of any case. If the case goes wrong he has the opportunity of explaining the fact by contributory negligence on the part of the patient, bad constitution, unfavorable surroundings, forced operation, and many other qualifying circumstances which might tend to a bad result despite the most scientific treatment. Indeed, if the practitioner even uses ordinary intelligence in the management of his case, he is entitled to the benefit of a doubt, especially if he wisely refrained from guaranteeing good results.

There are no cases more fraught with trouble for the practitioner in regard to suits than those of fractures and dislocations, particularly in the neighborhood of joints. Nine-tenths of all the malpractice cases would come under one or other or both of these heads. Generally speaking, the severe and complicated cases are very difficult of diagnosis and very hard to treat, and although the result may be, on the whole, satisfactory to the surgeon, it is far from being so with the patient's friends and with professional rivals. How easy it is for the man who was not there to say what the man who was there should have done. And yet, when the cases are examined from all points of view, and all the mitigating circumstances taken into account, it is found in ninety-nine cases out of a hundred that the results are exceedingly good if not brilliant. Most of the mistakes, when they are made, are in the direction of diagnosticating fracture for dislocation and treating the case accordingly, or at least of ignoring the possibility of a dislocation combined with fracture. This is, of course, very bad, but even in the worst cases such errors, in view of the great difficulties in diagnosis, are scarcely to be avoided. All these are considerations which naturally come up in the general discussion of such a subject, and may the better help us to appreciate the true force and inwardness of the following suggestions:

Always be certain of the diagnosis, and share the responsibility with counsel, if possible. Never guarantee good results, but always give a guarded prognosis. It is

always safer, in view of possible results, to treat the case as a serious and important one rather than otherwise. Never appear to be lacking in prompt attention to every possible requirement of treatment, and always be ready to warn the patient of the ordinary mishaps, shortening and deformity in fractures, the dangers attending operations, and the like, that there may be a proper division of risks and responsibilities. Be always on your guard against contributory negligence on the part of the patient. Promise him but little, and he will not be led to expect miracles. And, lastly, remembering that you, too, are mortal and liable at any time to err yourself, never criticise the work of your brother practitioner, and never under any circumstances consent to appear in court against him. This latter is a rule to which there can scarcely be any exception.

## THE NEW BUILDING FOR THE ACADEMY OF MEDICINE.

THE laying of the corner-stone for the new building of the Academy of Medicine during the present week will mark an era in the medical history of New York. It must be considered a starting-point in a direction for lasting good to the medical fraternity of this metropolis. The profession will now have a home worthy of itself, and can command that respect and influence which will necessarily grow out of a unity of purpose and dignity of work—eminently fitting to its high calling and noble aims. From a few good men and true, who first joined interests in 1847, and who met until lately in hired halls, it has increased its membership to that of a large and influential body, and will soon own an edifice which, in appointments and fitness for scientific work, will have no equal of its kind in this or any other country.

The Academy has earned its own right to its present position. Since its organization it has done an amount of faithful scientific work of which any similar society should be justly proud. Its proceedings have been marked with dignity, learning, and interest, and the papers and discussions before it have gained a reputation for American medicine throughout the world. It has been, in essence and in fact, a scientific society, which has not cared to meddle with medical politics, or in quarrels based on real or fancied ethical rights. Pursuing the even tenor of its way, it has sought with an effectual and honest purpose to gather under its influences the best elements for good which dignified science can bring to bear on good fellowship, and friendly emulation can suggest. Ever since its beginning it has maintained this course. Its past experience cannot fail to foreshadow its future.

There is great reason for congratulation in all this. But, at best, the profession of this city must not allow itself to say more than that it has made a good beginning. A great deal of work lies before it to keep up the reputation of the Academy for good work and good deeds. It must be admitted that the profession is willing to do its part. But there is still something more to be done by the laity. Liberal donations have already been made by lay friends of the Academy, but the funds are not yet all subscribed for. We only wish, in this connection, to state the fact that fifty thousand dollars is yet required to enable the medical profession to feel really at home in their prospective building. There is no argument needed for a full realization of the beauty of charity on the part of the friends of the Academy. The Academy has shown itself in earnest as to its desire for a suitable home, and the time has come for the rich men in and out of the profession to prove their substantial sympathy in the laudable and necessary movement. Who will be the benefactors? Science and humanity stand ready with their benediction.

## OUR ILLUSTRATION OF GERMAN MEASLES.

WE present in this issue another of the fine plates from Morrow's "Atlas" illustrating one of the common eruptions met with in general practice. It is only within later years that Rötheln was considered a distinct form of measles, and the interest in its study has developed accordingly. The prominent feature of the disease being the eruption, occasion is taken for the delineation of the latter in the admirable coloring as shown in the plate. The pale rose hue is well portrayed, as are also the size, shape, and general arrangement of the papules. On the whole, it is an instructive object-lesson of a lesion the associated symptoms of which are worthy of study. As a work of art, it ranks with the beautiful and life-like representations of scarlet fever and measles previously published in THE MEDICAL RECORD, and likewise taken from Morrow's admirable "Atlas."

## THE LATE SESSION OF THE NEW YORK STATE MEDICAL ASSOCIATION.

THE recent session of this Association was characterized by an exceptionally large attendance, and much manifest interest in the proceedings. The topics discussed made a home-like appeal to the general practitioner, whose zeal is in the direction of "the first care;" they were practical, well-selected, exhaustive, and scholarly. Many new men, destined to make their mark, surprised both themselves and others with the applause gained by their ambitious endeavors and the results of their work. There were some disappointments, owing to the failure of a rather crowded programme and the absence of certain advertised participants, but, on the whole, these drawbacks were more than compensated for by the eagerness of volunteers to fill the gaps, so that there was no real dearth of substantial material.

The set discussions on the collective-investigation plan, which seem to have come to grief across the ocean, were both satisfactory and successful. The themes selected, such as "Tubal Pregnancy," the "Treatment of Hernia," and the "New Hypnotics," were timely and well treated. We may say, in fact, that they were exceedingly well handled, and, so far as the detailed questions were concerned, assigned to those who were able to speak by authority. There were very little crudities of thought or looseness of statement, but, on the contrary, much honesty of investigation, some sceptical interrogation, and a deal of logical candor.

Much as we have deplored the Code schism, we are fain to acknowledge that, when families become too large, the component individuals may gain in energy and benefaction by separating for the purpose of house-keeping on their own account; at all events, in the present instance, sympathy appears to drift somewhat toward the young couple, especially when zeal and honest endeavor go hand-in-hand. Certainly, if the Association aim for influence and additions to our stock of knowledge, not only

the profession but the public at large cannot fail to be benefited—the field is large, the harvest ripe, and the laborers none too many.

### SUGAR OF MILK AS A DIURETIC.

At a recent meeting of the Academy of Medicine of Paris, Dr. Germain Sée referred to the diuretic action of milk, and proposed to study this property more closely, in order to see upon what constituents of this substance the action in question depended. That the increased diuresis was not the result simply of the ingestion of a larger amount of fluid, was shown by the fact that the excretion was much in excess of the quantity of milk taken.

Arguing by exclusion, M. Sée came to the conclusion that it was to the sugar which it contained that the milk owed its diuretic properties, and he then put his theory to the test by giving sugar of milk to a number of patients suffering from dropsy. In some cases the diuresis was prompt and very pronounced, in other cases the amount of urine was very slightly, if at all, in excess of what it had been before the beginning of the experiment. This discrepancy in the results was found to be due to different causation of the dropsy. When the trouble was purely cardiac, with but little, if any, disease of the kidneys, the remedy was certain in its effects; but when there was extensive renal disease, but little diuretic action was noted. In cardiac dropsy, the author believed sugar of milk was the best and most certain diuretic that we possessed, the excretion of urine caused by it being greater than that due to any other drug. He found that it acted similarly to, though more powerfully than, caffeine, while possessing none of the disadvantages of the latter remedy.

Lactose acts, however, solely upon the kidneys, and is only of service in relieving the dropsy of heart disease, being without effect upon the dyspnœa. For the latter, M. Sée resorts to iodide of potassium, which may be given at the same time with the sugar of milk. The ordinary dose of lactose, in order to obtain the most certain diuretic action, is about three ounces in the twenty-four hours.

### UNIFORMITY IN REPRINTS.

Dr. Charles Everett Warren has been writing, in the *Boston Medical and Surgical Journal*, regarding the inconveniences that accrue to those who write in medical journals, and to the collectors of pamphlets, from their very varying size. The *Pittsburg Medical Review* has taken the matter up and attempted a solution of the trouble. It finds that the columns of forty American medical journals measure from 2⅜ by 7⅞ inches to 4⅞ by 7⅝ inches. It is suggested that by the adoption of two regular sizes an absolute uniformity of publication can be secured. A page 5½ by 8¼, which may be called size No. 1, would sufficiently serve all journals whose column width is from 2⅜ to 3⅜ inches, inclusive. This would leave a margin of 1⅜ inch for the smallest column and ⅜ of an inch for the largest, ample space for binding and for the good appearance of the page. Of the forty journals noted, sixteen would come within this form. For the remainder, a page 7¼ by 10 inches would prove satisfactory. This size, which may be called No. 2, would allow of a double column in all journals whose column width is 2¾ inches or less, and a single column for all of those 4 inches or more in width.

We would say that contributors to The Medical Record would have to order a size slightly larger than No. 2, since its page measures 3⅜ by 10½ inches. Reprints can, however, always be made of such style as the author of the article desires.

## News of the Week.

Dr. Beard's Work on Neurasthenia, which was translated into German by Dr. Neissier, has just reached a third editon.

The Next Congress of American Physicians and Surgeons.—At a meeting of the Executive Committee of the Congress of American Physicians and Surgeons, held in Philadelphia, September 21st, Dr. S. Weir Mitchell was elected president of the next Congress, which will be held in Washington in September, 1891, Dr. W. H. Carmalt, of New Haven, Secretary; Dr. J. S. Billings, of Washington, Treasurer; Dr. William Pepper, of Philadelphia, Chairman of the Executive Committee; and Dr. S. C. Busey, of Washington, Chairman of the Local Committee of Arrangements.

Dr. I. Minis Hays has retired from the editorship of the *Medical News*, and Dr. Hobart A. Hare succeeds him. Dr. Hays, we are glad to learn, will continue to edit the *American Journal of the Medical Sciences*.

Execution by Electricity.—At a recent meeting of the Paris Academy of Sciences a communication from Mr. Edison was read respecting the use of electricity as a means of inflicting capital punishment. He is of opinion that an alternative current will cause death without pain, but he adduces no experimental evidence in support of that contention. The matter was referred to the Medical Section of the Academy, which is to have the assistance of M. Marcel Desprez, the electrician, in drawing up a report on the subject.—*British Medical Journal*.

The Celebrated Painting of Rembrandt, called the "Anatomical Lesson," has been bought, it is said, by Mr. Ellesworth for the Institute of Art, of Chicago. It formerly belonged to the Princess de Sagan.

Transplanting a Chicken's Cornea.—The *Progrès Médical*, July 13, 1889, announces that Dr. Gravenigo, of the University of Padua, has been successful in an operation which has been tried hitherto in vain in France and elsewhere. This operation consists in grafting the cornea of a chicken upon a human eye. The graft was made recently, and the cornea is said to be very transparent, shining, and convex.

Medical Examiners for Tennessee.—The Governor of Tennessee has appointed the six members of the State Board of Medical Examiners, and they have organized with Dr. James B. Murfree, of Murfreesborough, as president, and Dr. T. J. Happel as secretary. According to the law not more than four members may be appointed from the same school of practice. In addition to the above there have been appointed Dr. E. E. Hunter, of Elizabethtown, and Dr. Heber Jones, of Memphis; with Dr. W. B. Halbert (eclectic) and Dr. T. H. Hicks (homœopath).

THE STATE EXAMINATION OF MEDICAL STUDENTS.—The law, passed last winter, requiring students having no baccalaureate degree to be examined before entering upon medical study, says the New York *Medical Journal*, is being put in train for enforcement by the Regents of the University. A circular, dated August 20th, has been sent to the colleges and to individuals giving information respecting the methods of these examinations. The secretary, Professor Melvil Dewey, may be addressed at Albany for copies of the circular. Students who had entered upon a three-years' course prior to June 13, 1889, are not affected by the new law. The earliest date for which an examination has been set down is September 30th, at Buffalo. Hence, we judge, a certain proportion of this year's entries at the colleges will be in the plight of a legal oversight, unless there happens to be some provision that is not explicitly stated in the circular of the Regents. However, as it is not the object of the act to lay a hardship upon the students of the current term, there will probably be no difficulty in obtaining an amendment from the next Legislature by which their cases may be passed upon equitably. It is not generally known that the Regents' certificate is required to be filed with the dean or secretary of the medical school "prior to entering upon the prescribed three-years' course of study of medicine," and without this preliminary filing it is forbidden to the schools to grant the degree of doctor of medicine. The act does not apply to persons who "have already entered upon" the said course of study. The word "already" must be construed to refer to the date of the approval of the act by the Governor, on June 13, 1889.

PROFESSOR BRIEGER has received the sum of fifteen hundred marks to enable him to prosecute his studies of the ptomaïnes.

A VERY BOLD EXPERIMENTAL OPERATION for the relief of the myxœdema which has followed complete removal of the gland is now under trial. It consists in inserting a fresh, healthy piece of the gland in the abdominal cavity, with the hope that it may form attachments and perform its mysterious function. In one case, probably by pressure upon the large intestines, the inserted mass, after the complete healing of the wound, caused such violent colicky attacks that it had to be removed, but in most instances no evil effects have followed the insertion. What becomes of the transplanted gland is not yet known. A case was recently shown that had been operated upon about three months previously, in which the presence of the gland in the abdomen could apparently be still demonstrated by palpation, etc., and in which, the patient asserted, his general condition was much better than before the abdominal section.—*Therapeutic Gazette.*

FIGHTING A SUPPOSED "MEDICAL TRUST."—The following item is copied from the *Evansville* (Ind.) *Courier* as an example at once of clear English expression and intelligent economical science. "It has become customary with all corporations, societies, companies, and many private individuals, when they have a job of building, repairing, painting, glazing, papering, printing, or any work to do, to ask for bids for the same. This has become so common that a large number of citizens have lately joined together for what they claim is self-protection, and will soon hold a mass meeting to act upon measures already proposed for mutual protection. Among these the one most necessary is some means to protect themselves against what they claim to be the exorbitant charges of the medical trust. To do this blanks will be given to the heads of families for the purpose of getting bids for attending their families by the year or by the job, as they may deem best. This seems to be a good move, if carried out properly, and should include, besides the physicians, preachers, lawyers, and all other professions and artisans that have formed trusts, and thus a revolution will occur that all would gladly see succeed."—*Boston Medical and Surgical Journal.*

DEPOPULATION OF FRANCE.—The movement of population in France indicated by the summaries published for 1888 in the *Journal Officiel* cannot be read without regret. They are summed up pithily by M. Georges Michet in a few words: Diminution of marriages, augmentation of divorces, decrease of legitimate births, increase of illegitimate births, excess of deaths over births in forty-four departments. But for illegitimate births, the population of France would decrease.

DR. DUTZE, formerly assistant in Dr. Unna's clinic at Hamburg, has been invited to proceed to Honolulu by the Hawaiian Government, and to remain there some time to study leprosy and to investigate the effect of new methods of treatment.

SEVERAL OF THE MEDICAL JOURNALS OF PARIS have united to form a protective association. Over thirty journals have already become members, many of which are well known on this side of the Atlantic.

A MISTAKE THAT PREVAILS IN BOSTON.—The *Boston Medical and Surgical Journal* says, aphoristically but heterodoxically: "Woman has some organs outside the pelvis."

TRIED THE ELIXIR WITH STARTLING RESULTS.—Dr. Slominski experimented with the famous Brown-Séquard elixir of life in his rooms, 507 South Thirteenth Street. Both subjects were middle-aged men who had suffered strokes of paralysis. The first man was J. E. Bruner, and the second was Tim Kelley. The *modus operandi* consists of piercing a hole in the arm and then expelling the air, after which the elixir is injected. Mr. Bruner stood the operations wonderfully well, but Mr. Kelley did not. Kelley turned almost deadly sick, and gonorrhœa immediately set in, but was checked by the physician.—*Omaha Dispatch.*

A RARE ANOMALY: ABSENCE OF PECTORALS.—As is known, there exists a curious "law" according to which very rare or exceptional cases of biological anomalies (diseases or anatomical defects) tend to occur in groups. The "law" is once more well illustrated by the congenital absence of the pectoral muscles. As your correspondent stated in his preceding letter (*vide* the *Reporter*, July 13, 1889, p. 44), the literature of that extremely rare anomaly had been recently supplemented by Drs. Schulthess, of Zurich, Kobler, of Vienna, and Bradel, of Sophia (Bulgaria), who had published each a case almost simultaneously and quite independently of each other. A few days after my letter had been mailed to Philadelphia I received a current number of the "Proceedings of the Omsk (Siberian) Medical Society," No. 3, 1889, which contained

MEDICAL RECORD
October 5th 1889.

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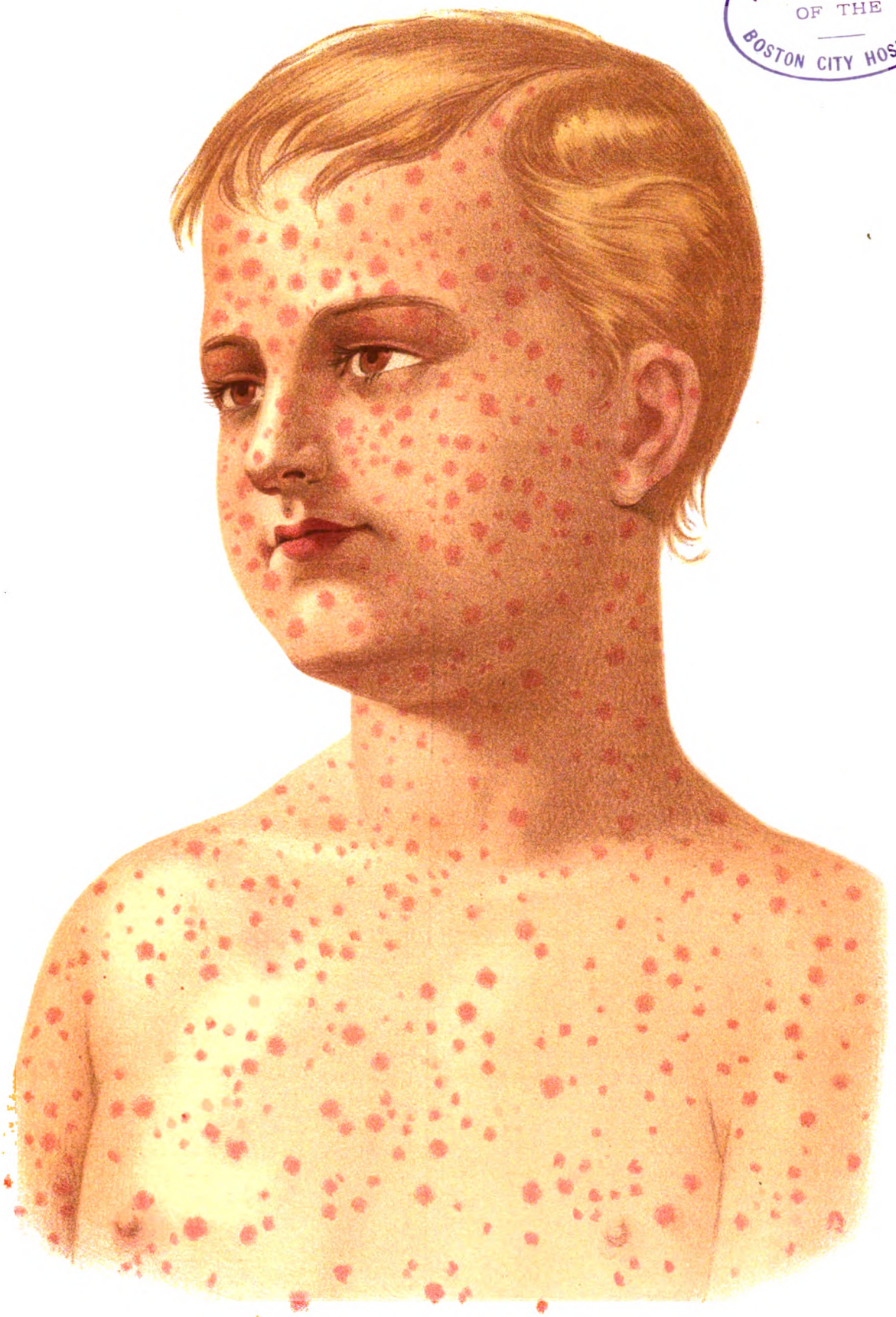

RÖTHELN – GERMAN MEASLES.

From Dr. P. A. Morrow's Atlas of Venereal and Skin Diseases.

WILLIAM WOOD & COMPANY, Publishers, NEW YORK.

LINDNER, EDDY & CLAUSS, LITH. N. Y.

another instance of the defect, described by Dr. Nikolai A. Tüberovsky, house-surgeon to the Küldjinsky Lazaretto. The case is that of a young, strong, healthy, and otherwise perfectly well-developed Siberian Cossack, twenty years of age, in whom an accidental examination revealed a congenital absence of the sterno-costal portion of the right major pectoral muscle, as well as of the whole pectoralis minor, accompanied by an anomalous inability of the corresponding acromio-clavicular joint, the right clavicle and acromion being longer and thicker than the left ones. No functional disturbances were detected. Dr. Tüberovsky adds that Professor W. A. Gruber, the illustrious Russian anatomist, had seen only one similar case (absence of the clavicular portion of the major pectoral) during his forty years' practice, and Professor Lesshaff, of St. Petersburg, only two (absence of the sterno-costal portion).—Berne Correspondence of *The Medical and Surgical Reporter.*

## LAYING OF THE CORNER-STONE OF THE NEW BUILDING FOR THE NEW YORK ACADEMY OF MEDICINE.

THE New York Academy of Medicine laid the corner-stone of its new building at 17, 19, and 21 West Forty-third Street, on Wednesday afternoon, October 2d, with the assistance of Bishop Potter, the Rev. John Hall, Grover Cleveland, Drs. A. Jacobi and A. L. Loomis, and an audience of several hundred persons. The medical profession turned out in force and filled every space within hearing distance of the speakers. The platform was occupied by officers and ex-officers of the Academy, with the distinguished laymen who were invited to participate in the ceremonies. Among the medical gentlemen on the platform were Drs. Fordyce Barker and S. S. Purple, ex-Presidents of the Academy, Gouverneur M. Smith, George A. Peters, S. D. Hubbard, W. H. Draper, F. N. Otis, A. M. Jacobus, F. A. Castle, Alexander T. Hunter, C. A. Leale, and George F. Shrady.

Bishop Potter opened the exercises with a prayer, and the address was delivered by Dr. A. Jacobi, an ex-President of the Academy and the Chairman of the Committee on Funds for the new building (see page 365).

### ADDRESS OF EX-PRESIDENT GROVER CLEVELAND.

Mr. Cleveland's remarks followed Dr. Jacobi's address. He congratulated the members of the Academy upon the occasion that brought them together, and declared that it signalized an important step in advance for medical science, wrought by their activity and enterprise. He referred to the fact that he had lately seen a statement printed by the Academy only three years ago, in which it was set out that the aim of the organization since its formation had been the acquisition of a building for its use and the accommodation of its library, and that a commodious building had at last been obtained, and afforded all the room the organization was likely to need for some time. It was a remarkable evidence, he thought, of the success of the Academy that that building, so commodious only three years ago, had now been outgrown, and one three or four times as large was about to be substituted for it.

"The nobility and sacred character of this mission have been often dwelt upon," he said. "It is an old story, but it will never lose its interest while humanity is touched with human woe, while self-sacrifice receives the homage of Christian hearts, while the sufferings and sorrows of our fellow-men start the tear of pity, nor while their alleviation brings comfort and satisfaction to the soul of sympathy. All your fellow-citizens may well claim a share, not only because they are interested in the promotion of the science and art of medicine, by reason of their liability to accident and disease, but because such advance in any profession as is here demonstrated adds to the glory and renown of our common country. I am here to claim for the laymen among your fellow-citizens a part of the pride which grows out of the progress and achievement of our medical profession. I base this claim upon the fact that in this favored land of ours all interests are so interwoven and all activities lead, or should lead, so directly to the accomplishment of our common national destiny, that none of us can be indifferent to an important advance among us in any science or industry.

"I am sure that you are not inclined to ignore the aid you have received in the project you have undertaken from the laymen among your fellows. Nor can you forget that, underlying all that you have done and all that you have received, are our free American institutions which encourage and give scope to every worthy effort, and which offer fitting rewards for intelligent and well-directed labor in every condition of life.

"You will not, therefore, I trust, deem it impertinent if I remind you that none of us are absolved from the duty of aiding in the maintenance in complete integrity of these free institutions, and that this requires the thoughtful care and attention of every citizen. You do much for your country when you raise the standard and enlarge the usefulness of your profession, but you do not accomplish all you can, nor do you discharge your full duty of citizenship, unless you also attempt to better the condition of public affairs, and give to political topics and movements the benefit of your trained thought and well-informed judgment. In this way you assist in making safe and sure the foundations upon which must rest the success and value of all your professional efforts and accomplishments.

"I hope, when we shall celebrate here the discovery of our country [applause], that we may point out on this spot, in your completed building, a splendid monument of the progress of our medical education; a monument which shall not only prove to the stranger that our physicians are proud of their profession, but one which shall also be a reminder that those who govern within its walls do not forget, in their devotion to the science and art of medicine, their other duties of citizenship."

The President, Alfred L. Loomis, then conducted the imposing ceremony of laying the corner-stone, expressing the hope shared by the multitude present that the act was the harbinger of a brilliant future for the Academy and for the science to which it was devoted. Dr. John Hall pronounced the benediction.

### THE NEW BUILDING OF THE ACADEMY.

The New York Academy of Medicine long since outgrew its house at No. 12 West Thirty-first Street, and the need for a larger building has been frequently talked of. The money with which its present house was bought was almost wholly derived from members of the medical profession, and it was only by the exercise of a scrupulous economy that the society was able to pay off the mortgage three years ago, and maintain its free library and reading-rooms. With the recollection of forty years of effort to acquire a suitable meeting-place for the profession, it was not a matter of slight importance when Mrs. Charles Woerishhofer gave to the Academy, through Dr. Jacobi (then the President), $25,000 as a memorial of her husband, to be applied to the procuring of a larger and better building. From this moment the agitation of the project, which will result in the new building here described, became active, and it was not long before information was received that Mrs. Celine B. Hosack had bequeathed to the Academy $70,000, also to be applied to the erection or purchase of a new building, with the sole condition that a certain part of the building so acquired should be distinctively recognizable as a memorial of her late husband, Dr. Alexander Hosack.

With these two handsome gifts, and the value of its present building, there seemed no reason why the Academy should delay action, and a large subscription committee

was appointed, embracing several well-known citizens of other professions, and more money was asked for.

A smaller committee was appointed to look for a site, and for more than a year efforts were made to obtain a location which would be acceptable. Owing to differences of opinion, and the scarcity of eligible sites, and, perhaps, quite as much to the want of assured means, there was some delay in arriving at a choice; but finally the one selected seemed to all immediately interested to be the most desirable. A purchasing committee was appointed, consisting of the President, Dr. Loomis, and Drs. Herrick, G. A. Peters, and Castle, which committee was subsequently made a building committee, Dr. Jacobi being added.

Several eminent architects were at once asked to submit preliminary plans; and the excellence of all of them necessitated several meetings of the committee for a choice. Finally the plans of Mr. R. H. Robertson were accepted, and, with slight modifications, are the ones now being followed.

It had been proposed to use fire-proof construction for the library and assembly-hall only, but it was ultimately decided to make the entire structure fire-proof, notwithstanding the increase in cost.

The new building here represented is on the northern side of Forty-third Street, about two hundred and forty-five feet west of Fifth Avenue. Between it and the Avenue the Century Club is now erecting a house covering a plot one hundred feet square, and between the two buildings is that of the St. Louis College. To the westward of the Academy site the adjoining lot has since been bought by a gentleman with a contract to erect a first-class private residence, and the next fifty feet, running through two hundred feet to the southern side of Forty-fourth Street, is being negotiated for by a syndicate of art societies, with the intention of erecting a building which will accommodate them with rooms and furnish extensive galleries for exhibitions.

The proximity of the railroad depot; the stations of the Elevated Railroad; the horse-cars on Forty-second Street, Madison and Sixth Avenues; and the stages on Fifth Avenue, make the site as nearly central as it is possible to obtain, and there is little doubt that it will remain so for many years to come.

The new building covers a plot 75 x 100 feet, and has a basement, four full stories, and two half-stories. Its front is entirely of red sandstone, of fine texture, up to the spring of the arches of the second story windows. From thence brick-work will be introduced in increasing proportion until the apex of the gable is reached, where the finale is of carved stone-work.

There will be an assembly-hall 42 x 57 feet; a conversation- and smoking-room 26 x 36; five rooms for meetings of sections of the Academy and medical societies, besides the large hall; four toilet-rooms, a reception-room, coat-room, eight committee-rooms, ante-rooms, apparatus- or specimen-rooms, and private study-rooms; a reference library 37 x 43; a stock-room with a floor area of 1,882 square feet, two small rooms for the use of the librarian, a strong room for the storage of valuable books and papers; three reading-rooms 25 x 28; a laboratory or microscope-room 28 x 28; a dining-room or banqueting-hall 28 x 31; and a kitchen beneath it of about the same size, with serving-rooms attached; making altogether thirty-three rooms exclusive of halls and passageways, and the rooms in the basement used for air-chamber, coal, boilers, engines, unpacking books, etc., as well as the apartments for the resident librarian in the upper part of the building.

The entrance, on the side toward Fifth Avenue, is but a step or two above the sidewalk. A central stone column supports a flat arch which admits to an outer vestibule about 8 x 20 feet. An inner vestibule, about 6 x 10 feet, leads to a staircase-hall 15 x 33 feet, having on the eastward a reception-room 11 x 13 feet, and in its rear a coat-room 8 x 13 feet. A well for the rear staircase and elevator 14 x 20 feet brings us to the rear end of the hall. To the westward, on entering, opens a doorway to a committee- or reading-room (which can be used as an extra coat-room) 15 x 27 feet; beyond that is a passage to the smoking- and conversation-room of 26 x 36 feet, intended for the use of fellows who do not desire to enter the assembly hall or library. The next opening to the westward is that to the assembly-hall, and adjoining it, at the northern end of the staircase-hall, is the door to the banqueting-hall. The assembly-hall and banqueting-room adjoining, and the wainscoted partition of the latter on the side toward the assembly-hall, is made to be raised into the wall above so as to throw the two halls into one. So, too, the 14 feet doorway between the assembly-hall and the smoking-room can be opened on the occasion of an audience of unusual size, and about a hundred additional sittings within view of the speaker be secured. The ingenious manner by which a large space can be seated on occasions, and yet the lonesomeness of a large hall with a small audience may be avoided on others, is quite admirable.

With the approval of the executor of the will of Mrs. Hosack, this assembly-hall and the adjoining banqueting-hall are to be the memorial of Dr. Alexander Hosack, and will be known as the

HOSACK HALL.

The half-story above the first enables a height of 26 feet to be gained for the Hosack Hall in the rear, while in front a meeting-room of 30 x 43, and a reading-room or committee-room of 25 x 28 feet are secured. On the level of and in the rear of the larger room, is a logia or gallery 43 feet long, overlooking the assembly-hall, which considerably increases the space for an audience, and provides a place for manipulating a magic lantern when needed to illustrate a lecture.

Arriving at the second floor, a door opposite to the staircase gives admission to the public room of the library, 37 by 43, and 23 feet high. It is this room to

which the public will be admitted, and it will possess all the essential characteristics of a library. Cases arranged in alcoves will extend to about half the height of the room. In this room the librarian and his assistants will have their desks. It is the intention to place in the cases of this room books of reference or such as are in current demand, or of decorative character, and, perhaps, certain special bequests to serve as memorial alcoves. The great mass of books will be stored in a stock-room in the rear and over the Hosack Hall, this room having a capacity for two hundred and fifty thousand volumes. A private room for the librarian, and a strong room for valuable papers are connected with the stock-room, and adjoining the reference library is a reading-room 25 by 28, connecting with corresponding rooms above and below it by a special staircase. These three rooms are for the accommodation of current medical periodicals. On this floor is a detached study-room, 16 by 17 feet, and a commodious toilet-room. The toilet-room for the accommodation of the first floor, it should have been stated, being in the basement. The half-story above the second is mainly occupied by the upper part of the reference library and stock-room, but space is also found for the upper one of the three journal-rooms, 25 by 28; another study-room, 16 by 17; a toilet-room, and small rooms for the storage of duplicate books, etc.

The third story, fourteen feet in height, has four meeting-rooms for sections of the Academy, or other small gatherings. They vary somewhat in size, the smallest being 27 by 28, and the largest 33 by 37. They are all provided with ante-rooms and rooms for storage of apparatus and pathological specimens, laboratory work, etc., and one will be provided with a northern skylight arranged for photographic work, where fellows of the Academy, whose offices do not permit of such work, can secure a good light for photographing interesting cases. These small rooms vary in size from 11 by 12 to 9.6 by 21. A toilet-room also communicates with the hallway on this floor.

The fourth story, besides having a room 28 by 28 feet which can be used as a meeting-room, museum, or laboratory, has an area of 37 by 43 feet arranged for the apartments of the resident librarian. These with the staircase-hall, will cover but about half the area of the building. The remainder will be a level, open deck, covered with flat tiles and surrounded by an iron railing, which can be used as an open-air promenade.

The gable contains, besides the main trunk into which will open the ventilating flues, space which can be used, if needed, for storage of furniture, rooms for attendants, etc.

The basement is utilized for a large kitchen under the banqueting-hall; an air-space under the assembly-hall from which warm or cool air can be forced by a revolving fan into all parts of the building; a room for unpacking books; a room for fuel, and, in the sidewalk vault, the boilers and necessary pumps and other engines.

This is, in brief, an account of the building which the Academy expects to occupy about October, 1890. Compared with the room over the office of a coal-yard of forty years ago, it will be most sumptuous. When completed it will afford accommodations for a medical library of the first magnitude, a meeting-place for medical and other scientific bodies second to none in this country, and rooms suited to the prosecution of scientific study which will rival the laboratories of any of our wealthy universities. In the event of an International Exhibition being held in New York in 1892, it will become the headquarters for all visiting physicians, and by its existence contribute greatly to the credit which, it is to be hoped, this city will acquire for the liberal encouragement of the arts and sciences. Physicians will be proud to be enrolled among the fellows. The existence of its free public library will bring the profession into more intimate relations with the sympathies of the community in general, and endowment of the library and of lectureships will offer to liberal patrons ways for expending money which has heretofore been devoted to objects less closely allied to the public welfare.

# Society Reports.

## MEDICAL SOCIETY OF VIRGINIA.

*Twentieth Annual Session, held in Roanoke, Va., September 3, 4, and 5, 1889.*

(Special Report for THE MEDICAL RECORD.)

### TUESDAY, SEPTEMBER 3D—FIRST DAY.

THE session was called to order by the President, Dr. E. W. Row, of Orange, Va. After prayer, and the address of welcome, by Dr. A. Z. Koiner, of Roanoke,

DR. THOMAS J. MOORE, of Richmond, delivered the "Annual Address to the Public and Profession," selecting as his subject,

MAN AND HIS DEVELOPMENT.

The first meeting was open to the public, and the Opera House was well filled with ladies and gentlemen.

The report of the Committee on Nominations (Dr. W. D. Turner, of Fergusson's Wharf, chairman), recommended about fifty-five applicants for fellowship, each of whom was elected a fellow of the Society.

The report of the Recording Secretary, Dr. Landon B. Edwards, of Richmond, stated that fifteen fellows had died during the year, and six had tendered their resignations of fellowship—having either removed from the State or discontinued practice—leaving a total membership of about seven hundred and thirty-five.

The reports of the Executive Committee (Dr. W. W. Parker, of Richmond, chairman), and of the Publishing Committee (Dr. C. W. P. Brock, of Richmond, Va., chairman), were also presented.

### WEDNESDAY, SEPTEMBER 4TH—SECOND DAY.

DR. JOHN A. WYETH, of New York City, read, by invitation, a paper on

THE STATUS OF COCAINE IN SURGERY,

referring first to the dangers of the drug, due to the idiosyncrasies of patients. Its dosage is uncertain in different individuals, and even in the same persons at different times. As a rule, begin with the minimum dose, and gradually increase—always carefully watching the pulse, face, respirations, and pupils. In small doses it is a cardiac and respiratory stimulant; but in large doses it arrests the heart in diastole and paralyzes the respiratory muscles. It is not applicable to children under ten or twelve years of age. In adults, he has several times witnessed pallor of the face and fainting, but has thought these the results mostly of the patients being overcome by the sight of blood in operations, etc. Exhilaration is not uncommon—amounting to boisterousness in some. He has seen convulsive movements followed by opisthotonos in one case. In another, a decided convulsion occurred fourteen hours after the gradual injection of thirty minims of a four per cent. solution. Systemic absorption of the drug, when not applied about the eye or its direct connections, is proven by the dilatation of the pupil. His usual formula for hypodermic administration is approximatively a four per cent. solution (cocaine muriate, 3 j., boracic acid, gr. iij, and distilled water, ʒ j.). Always use water free of lime for cocaine solutions.

When operating on the extremities, with cocaine as the anæsthetic, the speaker first applies an Esmarch bandage. For amputation of the fingers, it is best to arrest the circulation by simply using a rubber tube or band applied around the finger, as high up toward the metacarpal junction as possible. As direct injections (along the line of proposed incision) retard union and repair of wounds by first intention, it is best to employ the indirect method (injections near the nerves at the base of the finger) when possible, although this latter requires a larger quantity of

cocaine and a little longer time for anæsthesia. The ligature at the base of the finger being in position to tighten, just before tightening it insert the smallest hypodermic needle through the skin, on the lateral aspect of the dorsum of the digit, about an inch from, and on the distal side of, the ligature. Inject two minims; push the needle a quarter of an inch farther, and inject two more minims, and thus proceed until at length the needle-point rests just beneath the skin, on the plantar aspect of the finger, when two minims more are injected. The operation is immediately repeated on the other half of the finger—the entire operation not lasting longer than half a minute. A smarting, burning pain is felt as the fluid enters the tissues. At once tighten the ligatures around the base of the finger, thus holding the solution at a standstill for absorption, which may be hastened by massage. Insensibility sufficient for amputation of the last phalanx occurs in about two minutes. The total quantity of solution that may be used varies from fifteen to thirty minims. Of course, some of the cocaine is eliminated in the hemorrhage of the operation itself. The amputation being finished, loosen the ligature for only a minute, which restores the circulation, when some more of the cocaine is washed out by the renewed hemorrhage; but a good deal of it is carried back into the system by the venous return of blood. Tighten the rubber again for two or three minutes, make the necessary sutures, and apply the dressing. Then for a minute or so again loosen the tourniquet, and again tighten, and thus repeat two or three times, to prevent the heart and nerves from being overwhelmed by the sudden taking up into the system of all the cocaine that was put into the finger.

THE ADVANTAGES OF THE DIRECT METHOD

are: Rapidity of anæsthesia, the smaller quantity of cocaine used, escape of much of the solution through the wound of incision. This method is preferable when the necessary anæsthesia can be obtained by not more than a drachm of a four per cent. solution, as, for instance, in incising felons, removing diseased nails, foreign bodies under the skin, etc.

In operations upon the trunk, the immediate absorption of the solution renders greater precaution necessary. For instance, if a fatty tumor is to be removed, insert the needle in the deeper layers of the skin (not subcutaneous fat) along the line of proposed incision, and inject a half-minim to one minim; advance the needle one-fourth inch and repeat the injection, and so on, as far as the needle will reach from the original puncture. The anæsthesia is evidenced by the pallor of the overlying cuticle. Divide the skin through the anæsthetized line, and dissect laterally—usually about an inch—until pain is felt. Then inject a half-minim or more at all sensitive points to be cut.

In eye surgery the value of cocaine is well known. In the buccal cavity its applicability has even a wider range. It anæsthetizes sufficiently to remove tumors of not more than one inch. Small epitheliomata and suspicious ulcers are painlessly removed from the tongue when from five to twenty minims of solution are injected around and beneath their bases. Dr. Wyeth has twice dissected out ranulæ painlessly under cocaine anæsthesia. Complete clefts of the soft palate in the adult can be painlessly closed by applying the solution with a brush to the mucous surfaces which are to be "freshened up." Cocaine is in every-day use for operations about the nose, nasopharynx, and larynx.

For internal urethrotomy, regardless of location, he now rarely employs general anæsthesia. After disinfecting the urethra with boracic acid solution (gr. x. to ℥ j.), inject from ℥ j. to ℥ ij. of a four per cent. solution of cocaine with the ordinary P-syringe. In a minute or so, let all of the cocaine solution run out that will do so. If the urethrotomy is to be in the membranous portion, pass Otis' long curved tube into that part, and inject from twenty to thirty minims. When the time comes, about the third day after the operation, for the introduction of the sound, be careful not to overdistend the canal with the preliminary solution of cocaine; about a drachm is enough. Cocaine anæsthesia is also very useful for numerous bladder troubles, examinations, etc.

Circumcision in adults no longer requires general narcosis. Constrict the penis near the pubes, pull forward the prepuce, and enter the hypodermic needle at the free border in the middle line on top, *between* the mucous and cutaneous layers. Then carry the point of the needle as far back as the proposed line of section, and inject one minim of the cocaine solution. Withdraw the needle half-way, and carry it forward again to the right and left, and force out a minim for every quarter-inch of the proposed section. As the frænum is very sensitive, inject two or three minims here.

In Levis's operation for hydrocele, cocainize the point where the trocar is to enter. If the hydrocele is small, Volkman's operation may be done under cocaine.

But in the open operation for varicocele, cocaine is not sufficient; nor is it sufficient for external urethrotomy, cystotomy, hernia, etc.

But small hæmorrhoids may be injected with the cocaine solution, and almost painlessly removed. Cocaine is also sufficient for incising anal and rectal fissures and ulcers; also for slitting up single and superficial anal and rectal fistulæ.

Dr. Hunter McGuire, of Richmond, did not think Dr. Wyeth's paper dwelt sufficiently on the dangers of cocaine. It is a very tricky agent. He had, however, used it nearly every day for the past five years, because it is just the anæsthetic often wanted when it acts well. While he has had no fatal case from its use, he has yet come very near killing one or two patients with it, so uncertain is its paralyzing effect in some cases—which cases cannot be foretold. He had read in one of his journals that Dr. Sims had injected a few minims of a twenty per cent. solution into the male urethra, and in twenty minutes, he thinks it was, his patient was dead. Dr. McGuire said he had cocainized a great many children without observing in any case the very serious effects referred to by Dr. Wyeth; in fact, he had come to the conclusion that children stand cocaine anæsthesia as they do chloroform—very well. But there are objections to cocaine, which belong to the experimental therapeutist to remove if he can. Undoubtedly it interferes with the repair of wounds by first intention. During the session of this Society in Richmond, two years ago, a distinguished author, then residing in New York, affirmed that there was no such thing as a "cocaine habit," in the sense in which the term "habit" is applied to the "whiskey habit," the "morphia habit," etc. But Dr. McGuire is certain he has seen cases of "cocaine habit."

Dr. Wyeth remarked, in conclusion, that he indorsed what Dr. McGuire had just said. The dangers of the indiscriminate use of cocaine are very great. His paper did not intend to imply the idea that danger in the use of cocaine with children was in the drug itself; but that it was not suited to them because of the difficulty in properly administering repeated hypodermic injections to children under any circumstances, and the peculiar sensation of loss of feeling in the part, which frightens them.

Dr. E. W. Row then delivered the President's address, his subject being

MEDICAL REFORMS,

with special applicability to the profession of Virginia.

CROUPOUS PNEUMONIA

was the subject for general discussion.

Dr. B. L. Winston, of Hanover Court House, in opening the discussion, confined his remarks to uncomplicated cases. Diagnosis, if physical signs are resorted to, is easy, though the disease sometimes is not recognized with such examination. Pain is probably never present, unless pleurisy complicates the pneumonia. Rusty-colored

sputa, although pathognomonic, according to his experience, by no means occur in the majority of cases; and yet text-book authors would lead us to expect this in every instance. The causes of the diseases are either specific, exciting, or predisposing. The theory of the *specific* origin of pneumonia does not meet with common approval. Yet pneumonia is not a simple inflammation of the lung; this is but an expression of a general disease. The lung inflammation itself deserves no higher rank than the intestinal ulcers of typhoid fever. Croupous pneumonia is not produced by extension of inflammation, although lobular pneumonia is the result of such extension. It is not produced by inhaling irritating gases, nor by traumatism, nor by "cold," as are other inflammations of the air-passages. It is a self-limited disease, and often occurs as an epidemic. The asthmatic tendency cannot be due to the height of the fever, nor to cardiac weakness, nor to the amount of lung consolidated, for the amount invaded is often very small. Besides, the heart-failure in no way corresponds with the severity of the other symptoms. The heart-failure which is the alarming symptom in uncomplicated cases is apparently due to a morbific agent acting on the nerve-centres. But the exact cause of croupous pneumonia is a subject for further investigation. The germ theory may or may not be true. The predisposing causes are age, under sixty; the male sex; the negro race; winter and spring seasons; and certain diseases, as typhoid fever. The exciting causes are, in general, such things as tend to lower the vital powers, as exposure to inclement weather, insufficient clothing—especially the neglect of flannel. The disease is more common South than North—being almost unknown in the frigid zone. During the cold months, almost all food is old; thus it is probable that the character of food then taken, while the vital powers are at their lowest, contributes most largely to the development of the disease. As to treatment, almost every drug has been tried, and yet the mortality is second only to that from consumption. Maragliona abstracts from five to ten ounces of blood on the fourth or fifth day, when the heart is on the eve of being overpowered by the pneumonic toxic matter. While venesection may sometimes be required, Dr. Winston does not think the evidence sustains the general adoption of Maragliona's practice. Large blisters are of doubtful propriety, although they do oftentimes relieve pain. Calomel has no place in the treatment of croupous pneumonia. Aconite in the commencement, and quinine from the start to abort the disease, may at times prove useful. But Dr. Winston, as a rule, has gotten the best results when he has used the least medicine. Hot poultices, opium to relieve pain, stimulants when needed, food, hygienic measures, and, above all, skilful nursing, will be all that can be done in uncomplicated cases.

Dr. H. C. Beckett, of Scottsburg, read the next paper, covering much of the ground of the first. He said the specific cause of croupous pneumonia is unknown; no age is exempt, though the disease is very rare in children under five years; occurs mostly in males; in laborers more often than in those who live in-doors, etc. Erysipelas, measles, diphtheria, small-pox, etc., are predisposing causes, as are a previous attack of pneumonia, and traumatism, especially in the old. It is most frequent in the Middle and Southern States. It often prevails as an epidemic in the mountainous regions of the South, and occurs mostly during the first five months of the year. In short, everything that tends to depress vital action predisposes to croupous pneumonia. As to treatment, use stimulants or depressants as required. Bleed, if both lungs are involved so as to leave but little breathing surface. In such cases, the relief is immediate. Large hot poultices over the lungs reduce blood-pressure, while the heat acts as a cardiac stimulant. Aconite is preferable to veratrum when a heart-sedative is needed. Antifibrin is the best antipyretic, and should be followed by quinine, which latter he considers the sheet-anchor in pneumonia—about five grains every four hours until the fever breaks. In the second and third stages, combine ammonium carbonate and digitalis if indicated. The early use of a large dose of calomel is beneficial. Use opium to allay pain and restlessness. Expectorants have no place in the treatment of pneumonia. Blisters at the beginning of the third stage hasten resolution. Alcohol is essential as food and a stimulant. Some believe pneumonia to be contagious, and that the period of incubation is four days; but Dr. Beckett does not believe it is contagious.

Dr. Lewis G. Pedigo, of Roanoke, read a paper on

SEDATIVE DOSES OF CALOMEL IN ACUTE CROUPOUS PNEUMONIA.

He reviewed the literature relating to the use of the so-called heroic or sedative doses of this drug in various acute diseases, set forth in systematic order the various effects of such doses on the secretions, the temperature, and the nervous system, and argued that these effects answer to the indications in pneumonia. The doses referred to in this paper range from thirty grains upward. The favorite method of administration is to sprinkle dry on the tongue.

Dr. Bedford Brown, of Alexandria, gave a résumé of his personal experience in the

TREATMENT OF CROUPOUS PNEUMONIA

during a period of forty-one years. During this time he has seen four or five different methods of treatment adopted and practised, and finally discarded. First, the depletory. At first it was used in every case, then in only certain cases, and finally it was entirely discarded. Then came the mercurial, in which calomel in small doses, with Dover's powder, blistering, and mercurial inunction, was used until ptyalism occurred. The great majority of cases recovered under this treatment. Then followed the sedative treatment—veratrum, aconite, and ultimately digitalis. The sedative treatment of Norwood gave birth to all of our subsequent ideas of sedation. This was an advance on the pure depletory treatment, and resulted in real good. Then, again, came the stimulant treatment. This was a still further advance, and has brought more and better points than any other single treatment. This also may be modified and combined with elements of the other treatments with advantage. Dr. Brown has not derived benefit from the pure antipyretic treatment. He has in former years seen much of the epidemic form—a typhoid pneumonia—the tendency to collapse in which was constant and great. In this form he has used large quantities of whiskey (a quart per diem), carbonate of ammonia, tincture of nux vomica, and chloroform, internally. In this form he has also used, in connection with stimulants, liquor ammoniæ acetatis, tincture of nux vomica, and tincture of chloride of iron with benefit. Dr. Brown does not think, from this long experience, that adherence to any one single routine treatment exclusively will give as good results as the mixed—combining some of the good portions of all, but never forgetting stimulants and nourishment. He has seen cases of pneumonia with slight fever, slow pulse, and moderately excited respiration recover without medication.

Dr. J. H. Neff, of Harrisonburg, believed that acute croupous or lobar pneumonia is a general disease due to a specific poison. This theory has been ably presented for some years, and much can be said for and against it. But each year's experience has strengthened his opinion in its favor. The future organic chemists and bacteriologists must prove whether it be a chemical poison or an organized germ. Believing that it is a general disease, due to a specific cause, for which there is no specific medicine capable of aborting its course, the treatment must be determined by the nature of the disease in each individual constitution. He has never bled or given a dose of aconite or veratrum viride, nor used mercury except to give occasionally an ordinary dose of calomel in the beginning. Many cases will recover without medi-

cine if properly nursed; this was observed and recorded more than twenty-five years ago. He has seen cases of double pneumonia with scarcely a bad symptom. The area of lung involved does not always determine the gravity of the disease. He gives opium or morphia to allay pain, lessen shock, produce sleep, etc. He regards quinine as the safest antipyretic; besides, it has special virtues in lessening the gravity of all local inflammations. He has never seen it produce collapse, and hence prefers it to other arterial sedatives. If not needed as an antipyretic, it may be of benefit in small tonic doses. He gives antipyrin to children; and if he has any routine treatment, it is to envelop their chests with an oil-silk jacket, lined with soft, fine flannel. Digitalis, alcohol, ammonia, and chloral have all, in their places, been of much service.

Dr. J. G. Wiltshire, of Baltimore, Md., said that, studying the subject of croupous pneumonia after Lépine, Sévestre, and Charcot, one must accept the theory that it finds its origin in a specific pathogenetic germ; yet it cannot be denied that there are certain meteorological conditions that stand in a strong causative relation to its production, it occurring more frequently in a low temperature —one acting as a specific, the other as an exciting cause. We are constantly exposed to the invasion of the pneumococci, but, for the want of the necessary conditions to render the mucous membrane of the lung a suitable soil for their culture and growth, it is able to resist them for a time; only to yield when such exciting causes as cold and traumatism supplement the specific influence of the germs. Apropos of the theory that the pneumococci have other habitats than the lungs, he called attention to the study of Sévestre of an epidemic of broncho-pneumonia complicating cholera infantum and other enteric troubles, in which he found the microbes of pneumonia in the intestinal tract, whence they were carried to the lung by the lymph-channels. The treatment of croupous pneumonia calls for heart-sedatives, and heat and moisture, in the form of hot cloths. These, if used in the first stage, may abort the disease. Should it, however, pass into the stage of red hepatization, a supporting and stimulating plan should take the place of the sedative one. Watch the temperature and heart as closely as the powers of the patient. Alcohol is important in the second and third stages. Quinine and antipyrin, when used together, are the best antipyretics. They not only reduce the temperature, but preserve the power of the heart. Carbonate of ammonia does the twofold work of aiding in liquefying and expectorating the fibrinous deposit, and keeping the heart's force up.

Dr. Henry M. Paterson, of Staunton, said that if this is a specific disease, the treatment given has certainly been at variance with such an idea. He does not believe that it is a simple hyperæmia of the lungs. The gravity of the attack depends on the amount of exudation. How to remove the engorgement is the question. This is the time to abort the disease, if such a thing is ever possible. His present success with the lancet is as great as it was when he began practice in 1851, and compares most favorably with the results of other plans of practice of to-day. As a food and stimulant, he gives alcohol during the second stage in almost every case. He has also had some remarkably satisfactory experience with ergot.

Dr. Henry V. Gray, of Roanoke, also discussed the same subject.

### ELECTION OF OFFICERS.

The election of officers was then held, with the following result: Dr. Oscar Wiley, of Salem, *President*. Drs. J. M. Estill, of Tazewell Court Houre; Alfred C. Palmer, of Norfolk; and Casper C. Henckel, of New Market, *Vice-Presidents*. Dr. Landon B. Edwards, of Richmond, *Recording Secretary*. Dr. J. F. Winn, of Richmond, *Corresponding Secretary*. Dr. Richard T. Styll, of Hollins, Va., *Treasurer*. Dr. John S. Apperson, of Glade Spring, was elected to deliver the Address to the Public and Profession during the session of 1890, and Dr. C. T. Lewis, of Clifton Forge, was selected as the Leader of the Discussion of the selected subject for 1890.

### THE TREATMENT OF THE SUMMER DIARRHŒA OF CHILDREN.

Drs. R. F. Young, of Love's Mill, and P. B. Green, of Wytheville, were nominated for commission as Members of the Medical Examining Board of Virginia, to fill vacancies occasioned by two resignations.

Rockbridge Alum Springs was selected as the place for the Annual Session of 1890, some day between August 25th and September 5th, as the Executive Committee may hereafter determine.

Dr. E. T. Brady, of the Southwestern Lunatic Asylum at Marion, read a paper entitled

### MENTAL ACTION—MATERIAL ACTION.

The doctor stated that he would treat the title as a fact, considering it established by the following three propositions, viz.:

1. That mental impressions involuntarily originate physical action, and that material impressions give rise to this involuntary mental action.

2. That loss of cerebral substance is followed by loss of physical or expressional function, and that disuse of mental function is followed by a corresponding atrophy of cerebral substance.

3. That abnormalities of organic function have as their sequence abnormal ideation.

He devoted his paper to the support of these propositions by arguments based upon normal and abnormal phenomena, and cited records, clinical and post-mortem, of several interesting cases illustrative of his subject.

Dr. William F. Cooper, of Woodville, presented the

### REPORT ON MATERIA MEDICA AND THERAPEUTICS.

From the phenol group, comes *Phenacetine*, a white, glossy, crystalline, tasteless powder, freely soluble in alcohol, less so in glycerine, and still less so in water. Therapeutic attention was called to it in 1887. It is a non-toxic, reliable antipyretic and antineuralgic. The usual dose of seven and one-half grains lowers the temperature from 1.8° to 3.6° F., for hours. It is best given in powders or soluble pills. *Sulphonal* promptly causes natural sleep, in from a half-hour to two hours, of several hours' duration, in doses of fifteen to forty-five grains. It does not act unfavorably upon the heart, respiration, temperature, or digestion. It creates no desire to increase the dose. It is given in wafer, or it may be dissolved in soup or tea. *Amylene hydrate*, an isomer of amylic alcohol, is physiologically ranked between chloral and paraldehyde. It is a colorless, slightly oily liquid, boils at 102.5° C.; sp. gr. o. 81. Its odor resembles that of paraldehyde, with a faint suggestion of camphor. It feels warm in the mouth, and has a hot aromatic taste. It is freely soluble in alcohol, but requires eight parts of water. It is given with extract of licorice, or in red wine and sugar. In doses of from fifty to seventy-five grains, it causes neither nausea, headache, indigestion, nor other unpleasant after-effect; but more frequently than other hypnotics it induces refreshing sleep. *Methylal* is a new hypnotic, with sweet taste, ethereal odor; is soluble in water, rapidly eliminated, and leaves no ill effects. Dose three to five grammes. *Salufer* (neutral sodium silicofluoride), a white inodorous compound, requiring ℥ j. water to dissolve gr. ijss., is a powerful, unirritating surgical antiseptic. For ordinary uses a grain is dissolved in an ounce of water, to syringe out cavities, etc. It corrodes steel, but does not affect sponges. *Guaiacol*, an ether derived from beech-wood creosote, is a colorless liquid, of aromatic odor, slightly soluble in water, but readily so in alcohol and fixed oils. It is used, by inhalations or in doses of a half to one minim several times daily, in consumption. The solution should be kept in colored bottles.

(To be continued.)

## NEW YORK STATE MEDICAL ASSOCIATION.

*Sixth Annual Meeting, held at the Hotel Brunswick, New York, September, 25, 26, and 27, 1889.*

WILLIAM T. LUSK, M.D., OF NEW YORK, PRESIDENT, IN THE CHAIR.

FIRST DAY, WEDNESDAY, SEPTEMBER 25TH—MORNING SESSION.

DR. GEORGE E. FELL, of Buffalo, read the first scientific paper, entitled

### PARTIAL INVERSION OF THE UTERUS,

in which he related the history of a case occurring in a multipara, in whom, eight hours after normal delivery, he was sent for hastily and found the patient in high fever, with anxious countenance, great pain in the pelvis, and partial collapse. The uterus could not be felt above the pubes. The hand in the vagina revealed the fundus uteri low down, the left cornua being most inverted. He placed the patient in the left latero-dorsal position, and made uterine irrigation with hot water while making manual pressure. The organ was wholly and easily replaced in about five minutes. It was necessary to give morphine to quiet the after-pains. There was no recurrence of the partial inversion. Dr. Fell attributed the accident in this case to the fact that in her first confinement she had been delivered by forceps, and the uterus forcibly drawn entirely out of the pelvis.

DR. MARCY, of Boston, thought partial inversion after delivery was more common than had been supposed. An article had recently appeared in which ten cases were given. The etiology was obscure. The cause to which it had been attributed in Dr. Fell's case was very instructive.

DR. FELL also read a brief paper entitled

### LATERO-DORSAL POSITION IN VAGINAL IRRIGATION.

His reason for describing the method was its superiority over others, and the fact that, as far as he was informed, it was new. An ordinary table, sofa, or bed could be used, the right side being covered with oil-cloth raised in folds to carry the water into a bowl at the bedside. The patient was then placed on the oil-cloth, the buttocks very slightly over the edge of the bed, lying on the left side, the limbs flexed. Irrigation in this position allowed the water to pass over the gluteal region into the bowl at the bedside, and could be carried out with ease and success.

DR. W. H. ROBB read a paper entitled

### PELVIC CELLULITIS IN WOMEN.

The first part of the paper quoted views, *pro* and *con*, on the existence of pelvic cellulitis. The author thought there was no reason to suppose inflammation might not exist in the pelvic tissues of the pelvis as well as elsewhere. It might be simple or complicated. He thought the inflammation should receive the name pelvic cellulitis when the cellular tissue was principally involved. He was unable to account for the fact that in different patients the three stages of the disease varied much in duration. The first stage was that of congestion, which might end in resolution. The second was that of effusion, and in some cases was of long duration, and might terminate in resolution or go on to the formation of pus. In the way of treatment, during the acute stage, he found veratrum viride an excellent drug for controlling the temperature and pulse. He also used sulphate of morphine hypodermically. Recognizing infection in the etiology of many cases, he made vaginal, sometimes uterine, irrigation with a solution of carbolic acid, and introduced iodoform. A flaxseed poultice was applied over the abdomen. When pus formed it should be evacuated at once. To reach it, laparotomy might be necessary.

DR. MARCY called attention to the fact that while the author had presented the claims of pelvic cellulitis to being classified as an independent affection, yet he had admitted that its origin was likely to be infection from without; in other words, that it was a bacterial inflammation, whether the bacteria gained entrance through the uterus and tubes or other channel. This fact had an important bearing on treatment. The earlier one was able to remove the direct factor in the production of the disease the more likely would the patient's life be spared.

DR. E. M. MOORE spoke of the mode in which pelvic abscesses should be evacuated. He had employed both incision and drainage, and aspiration, and expressed preference for the latter, as less likely to be followed by certain symptoms attending sudden and complete emptying of pus-cavities by the knife. He saw no reason why pelvic connective tissue might not be the seat of inflammation just as might connective tissue and all tissues elsewhere in the body.

DR. E. D. FERGUSON thought unfavorable symptoms were no more likely to follow incision than aspiration unless infectious matter were introduced. The aspiration should not be employed unless one knew just what tissues the needle had to pass through to reach the pus.

DR. CRONYN accepted Dr. Moore's views regarding the value of the aspirator, and expressed preference for opium to morphine, aided by quinine; opium removed the cause of the fever, while veratrum removed the symptom only. Indeed it had not been efficient in his hands even for this purpose.

DR. ROBB related a case in which the aspirator-needle had been introduced in three different directions. No pus was found. An abscess afterward formed, however, which he believed had been excited by the punctures.

The objection to opium was that the stomach rejected it in many cases. Veratrum, in reducing the pulse, tended also to cure the inflammation by lessening the amount of blood pumped through the congested parts by the over-acting heart.

DR. C. S. WOOD, of New York, reported a case of

### LAPAROTOMY FOR RUPTURED PYO-SALPINX—ERROR IN DIAGNOSIS—RECOVERY.

The case well illustrated the difficulties sometimes encountered in diagnosis. The patient was an unmarried woman, aged twenty-eight, who had been in good health, except at times pains were present in the lower part of the abdomen. In May last Dr. Wood was called, and found her suffering from abdominal pain, slight fever, and gastric disturbance. A cathartic was administered, which acted the following day. The pain became greater in the pelvic region, especially in the region of the cæcum, where was present indistinct hardness. The tumor in this region increased in size, and Dr. Wood became convinced the case was one of perityphlitic abscess. She was getting along well until after some days she was awakened in the night by "sickness of the stomach," had a severe chill, and partial collapse. The induration in the iliac region was found to be softer and less prominent. Projective vomiting of watery fluid took place when she was turned on her side for examination. The temperature was 103.5° F., pulse 140. Being satisfied of rupture of a perityphlitic abscess, Dr. Wylie was called in consultation, laparotomy was performed, and they were surprised to find no evidence of inflammation or tumor in the immediate region of the cæcum; instead, there was an effusion of lymph over a large surface, matting together of pelvic viscera, and rupture of a pyo-salpinx on the right side, which had been mistaken for a perityphlitic abscess. The sac and ovary were removed. The ovary on the left side being cystic, it was also removed. The patient recovered within four weeks. He afterward learned that she had, five years previously, brought on an abortion, which might account for the attacks of pelvic pain.

DR. EDIBOHLS mentioned two diagnostic points in distinguishing between perityphlitic abscess and pyo-salpinx. In the former the tumor lay midway beneath a line drawn from the anterior superior spinous process of the ilium

to the umbilicus. The second point was that during the first six or seven days, or until the tumor reached a large size, a perityphlitic abscess could not be felt by the two fingers introduced within the vagina, or one introduced into the vagina and the other into the rectum, whereas a pyo-salpinx could invariably be felt in that manner.

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### Afternoon Session.

#### THE PRESIDENT'S ADDRESS.

Dr. Lusk read his address, which opened the

#### DISCUSSION ON TUBAL PREGNANCY,

including relative infrequency of other forms of extra-uterine pregnancy; the interstitial, intra-ligamentous, and pedicled forms; the physiology, pathology, and diagnosis; clinical history and objective signs; the possibility of early diagnosis prior to rupture; and treatment, both prior to and after rupture, and after viability of the child.

He first gave the histories of two illustrative cases which occurred in his practice last winter. The first was that of a woman whom he was called to see in consultation on November 19, 1888. She was suffering from severe shock and intense anæmia. On the 11th she had been seized with cramps, nausea, and at times vomiting. When he was sent for, on the 19th, she had suddenly become exsanguinated, suffered from increased pain in the pelvic region, was excessively anæmic and vomited constantly; the pulse was 140. The pains had ceased on his arrival. The uterus was found pressed somewhat to the left; on the other side, and posteriorly, was an irregular soft mass, which obscured palpation of the uterine appendages. The diagnosis was rupture of tubal pregnancy, with intra-peritoneal hemorrhage. Laparotomy was recommended, and the next day, in spite of the fact that the patient was feeling comfortable, she was transferred to the hospital for operation. She arrived in a state of prostration, but was revived by stimulants during the night, and operated upon the next morning. When the peritoneum was incised a stream of dark blood, probably not less than two quarts, gushed out. The pelvic cavity was filled with clots, which he removed. The hemorrhage seemed to proceed from a sac in the broad ligament, which had ruptured into the peritoneal cavity. A silk ligature was made to include the tube, sac, and ovary, the ligated mass was removed by thermo-cautery, and the pedicle was dropped. The other tube and ovary were perfectly healthy. The abdominal cavity was irrigated. The operation lasted about forty-five minutes. In the afternoon, while vomiting, a large amount of fluid was forced through the drainage-tube, but he subsequently concluded that this was not due to secondary hemorrhage, of which he at first had fears. The patient made a good recovery. The embryo corresponded to about the sixth week. Reviewing the case, he said the first hæmatoma had formed between the folds of the broad ligament. The distention caused by effused blood had converted the posterior layer at the point of pressure into a sac, in which, at the time of operation, an opening was found about the size of a man's thumb. It appeared, then, that hemorrhage into the tube occurred first, and corresponded to the symptoms of the 11th. The thinning of the tubal walls was such that the non-occurrence of rupture of the intra-peritoneal wall at that time seemed almost a miracle. If the rupture of the tube was coincident with the occurrence of the first hemorrhage, separation of the folds of the broad ligament and formation of a pouch probably took place gradually. Sudden anæmia and prolonged unconsciousness on the 19th marked rupture of the sac and pouring of blood into the peritoneal cavity. Subsequent formation of clots in the pelvis served as a temporary check to hemorrhage.

The other case was similar; there was rupture of the sac, laparotomy was performed easily, the ovum was presumably of the fourth week, recovery seemed almost certain, when she suddenly died on the eighth day, of albuminuria. The two cases illustrated the ordinary history of tubal pregnancy. In the one instance the blood made its way between the folds of the broad ligament; in the other, it poured into the peritoneal cavity. Mr. Tait, he said, held that all cases of extra uterine pregnancy were in the beginning tubal. They might become abdominal by rupture; but he regarded the ovarian form as possible. The subject was too new, however, for any scheme to be regarded as final. It was not likely, however, that the ovum was capable of forming a nutritive connection with the peritoneum in the first place. In more advanced stages many cases of assumed abdominal pregnancy had been placed in evidence. They could be divided into two classes: 1, Cases in which the tubes had been reported intact, but in which there was direct communication between the tube on the affected side and the abdominal cavity; 2, cases in which the tubes had been reported intact, and not in communication with the cavity. The author criticised some of the reported cases of this nature. There was little question, he thought, of the occasional occurrence of ovarian pregnancy. Mr. Tait was undoubtedly right in insisting on the importance of chronic forms of salpingitis in the etiology. Tubal pregnancy was associated with the formation of a uterine decidua, which differed in no way from the decidua of uterine pregnancy, except that the three layers were less marked.

Unquestionably, early rupture of tubal pregnancy was the rule. Mr. Tait had not been able to satisfy himself that it was ever delayed beyond the twelfth week. Rupture at the placental site gave rise to hemorrhage, invariably fatal to the fœtus. The same was true, with rare exceptions, when rupture occurred at any point on the peritoneal surface. In most cases in which the pregnancy reached an advanced stage the development of the tube took place principally between the folds of the broad ligament. The support furnished the tubal walls by the gradual unfolding of the ligament hindered rupture. Occasionally pregnancy went on to viability without encroaching on the intra-ligamentous space. The tube then arose above the pelvic brim.

The intra-ligamentous form lay close to the uterus. In others the uterine end of the tube varied greatly in length. In the so-called pedicled form the uterus was crowded to one side or retroverted; the uterine end of the tube was usually long and thickened. The relations of the sac were often obscure.

The interstitial variety was that in which the ovum developed in the uterine portion of the tube. In twenty-six cases collected by Hégar all ruptured before the sixth month, Tait said before the fifth month.

A burning question connected with tubal pregnancy was that of diagnosis. Mr. Tait assumed a skeptical attitude in relation to the claims of some men to ability to make a certain diagnosis in all cases. The subjective symptoms and physical signs previous to an operation might prove deceptive. The use of the uterine sound in diagnosis had been the cause of many needless abortions. Moreover, intra-uterine pregnancy not infrequently persisted after the cavity had presumably been shown to be empty by one or more passages of the sound.

Main reliance must be placed on local symptoms and changes collectively. In the intra-ligamentous form the chances of error in diagnosis were slight. There was distinctive evidence of a rapidly growing tumor, early fluctuation; bimanual palpation made it possible to determine whether the tumor was independent of the uterus. Dr. Lusk thought not much reliance could be placed upon uterine changes during the early months. Grandin attached importance to the presence of rhythmic contractions in the uterus after the third month of uterine pregnancy, as distinguishing that form from extra-uterine and certain other conditions. More clinical observation was needed on that point. In his own experience lateral flexion of the uterus simulated ectopic gestation to a surprising degree. There was a considerable number of cases in which diagnosis could scarcely be doubted.

Regarding the value of electricity, he had had two cases

in which it was used, the diagnosis having been confirmed by Dr. Thomas. In both the tumor shrivelled, the other signs of pregnancy disappeared. The only argument against the method, when used properly, was its liability to cause rupture, and the retained ovum to undergo suppuration. But these possibilities were very slight. The method was only applicable during the first three months. No one in this country advocated electro-puncture. Electricity did not stand in the way of subsequent laparotomy. It was safer in the hands of the inexperienced than was laparotomy.

Dr. William Goodell, of Philadelphia, opened the discussion. With reference to the causation of extra-uterine pregnancy, he did not think we were at present in a position to accept wholly the views of Mr. Tait. There were strong arguments in their favor, and also against them. He did know that fibroid tumors had been, or seemed to have been, the cause of extra-uterine pregnancy. Distortion of the womb or tubes through adhesions was undoubtedly a cause. This statement was supported by the fact that in many cases the extra-uterine pregnancy followed a long period of sterility after a first pregnancy or pregnancies. He believed the trouble was much more common than had been recognized. While there was reason for some doubt, yet he was disposed to accept Mr. Tait's view that originally the pregnancy was always tubal, and secondarily might become intra-ligamentous and ventral. In the course of its development the intra-ligamentous form of extra-uterine pregnancy behaved like an intra-ligamentous cyst, splitting up the layers of the peritoneum on the posterior surface of the womb, on the bladder, its reflection from the bladder to the abdominal wall, etc. The same course of development accounted for the occurrence of fecal fistula in some cases.

With regard to symptomatology, there was usually suppression of the menses, which might last two months before the physician was consulted, or after two weeks it might be followed by dribbling of blood. Colicky pains were usually present, and in connection with suppressed menstruation led him to suspect extra-uterine pregnancy, especially if inflammation were absent A symptom on which he was disposed to lay some stress was the fact that in early pregnancy there was usually increased frequency of micturition, especially at night. This seemed to be more marked in extra-uterine pregnancy. The chief objective symptom was displacement of the uterus by the tumor. Often, however, an operation was justifiable although an absolute diagnosis could not be made.

In treatment he agreed with Dr. Lusk, that the aspirator should not be used. He had been surprised to read of the number of cases of cure by injection of morphine, yet he would not feel himself justified in resorting to it. He would not employ electricity. There were only two circumstances, he thought, which justified it, (1) where the patient peremptorily objected to an operation; (2) where the physician had not sufficient experience and skill to do laparotomy. If the child were viable, say at the seventh month, he would be disposed to wait until the eighth month. He had met with one case in which there was twin pregnancy, the one intra-uterine, the other extra-uterine.

Dr. Goodell related the causes of extra-uterine pregnancy which had come under his observation; in at least two the patients refused an operation, and died; in some the diagnosis had not been made by others; in some it was more or less conjectural. In his last four cases, in three of which the diagnosis was made before the operation, recovery followed laparotomy.

Dr. Marcy, of Boston, related two cases in which the autopsy showed extra-uterine pregnancy, and conclusively, as he thought, of the ventral form from the first. The fœtus was located quite above the brim, quite central, attached to the intestines, etc. He opposed the use of electricity.

Dr. J. E. Janvrin emphasized the diagnostic value of colicky pains, when taken in connection with other signs of extra-uterine pregnancy. He attributed the pain to distention of the peritoneal covering of the tumor. He advocated the knife.

Dr. Lusk thought colicky pains were so frequently associated with other conditions that they could not be regarded as of great value.

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Evening Session.

Dr. E. J. C. Minard read a paper entitled "A Word in Favor of Free Dispensary and Free Hospital Work," which had been read on a previous occasion.

Dr. George E. Fell read a brief paper entitled

THE MICROSCOPE IN DIAGNOSIS; PERSONAL OBSERVATIONS.

The microscope revealed the intimate structure of tissues, and illustrated the morphological changes producing pathological conditions; yet the range of the instrument in diagnosis was somewhat limited.

The following letter, received from Dr. U. C. Lynde, was one of several showing its value in diagnosis and prognosis of pulmonary affections: "In the summer of 1884 I was attending two patients, aged about forty; both had night-sweats, hectic fever, emaciation, rapid pulse, etc., physical signs alike; and so similar were their symptoms that my prognosis was the same for both—unfavorable, my diagnosis being pulmonary tuberculosis. Sputa were sent to your office for microscopical examination, you having no knowledge whence the sputa came. The sputum of one was found loaded with bacilli, while that of the other contained none. The former died inside four months, while the latter recovered and is now well."

In some cases the result of the examination had been negative, but more frequently it was of a positive nature.

Dr. Fell also read a paper entitled

FORCED RESPIRATION—ADDITIONAL OBSERVATIONS.

His further experience had been in cases of opium narcosis, and the asphyxia of the newly-born. It went to confirm his former favorable opinion of the method.

He was satisfied the method must in time take the place of artificial respiration.

Dr. Henry F. Risch read a paper entitled

THE RATIONAL DRESSING AND TREATMENT OF THE UMBILICAL CORD AND UMBILICUS.

After mentioning several other methods and their disadvantages, he described that practised some years by himself and Dr. Otto Risch, with great satisfaction. The cord was tied with one or more strands of thick silk "just exactly on neutral ground," or "between what belongs to the child and what does not." Then, after tying the usual second ligature on the cord, it was cut between the two. The jelly of Wharton was then industriously rubbed out, the stump most carefully dried, and either wrapped in scorched linen or muslin, or, better, dressed with powdered charcoal or animal carbon. The navel band should be kept perfectly dry. If the dressing remained dry, it was not changed until the little stump fell off, which usually occurred on the second or third day. The navel thus formed was smaller than after the usual dressing, nor did it ever protrude. The danger of septic poisoning and gangrene was avoided by this method.

Dr. T. D. Crothers, of Hartford, read a paper entitled

ALCOHOLIC PARALYSIS,

which will appear in a future issue of The Record.

Dr. Ferguson mentioned a case in a woman, in whom alcoholic paralysis led to an unusually early and fatal termination. He asked Dr. Crothers if he had seen many such cases, and received an affirmative answer.

Dr. E. M. Moore had listened to the paper with a great deal of pleasure, both because it marked a new departure in medicine, and presented views which had lingered in his own mind many years. Our knowledge of the subject

of alcoholic paralysis had been retarded by the fact that, as a rule, only the immediate effects were looked to, and the cure regarded as perfect as soon as the effects of the debauch had passed away. The paper took the right view, that the effects did not pass immediately away, but that a profound influence was produced, which might never pass away. There would be no difficulty in controlling the class of cases described when the law should recognize them as cases of insanity. They would then be confined, and receive appropriate treatment.

Dr. Carroll wished to hear from Dr. Crothers what he regarded as the intemperate use of alcohols. When the quantity which the person was capable of oxydizing had been exceeded, the alcohol began to produce a paralyzing attack, and in the end led to degeneration.

Dr. Crothers replied that all research went to show that alcohol was a complex body, and it would require centuries of laboratory research to answer the question what could be regarded as the temperate use of alcohol. Clinical observation was at present of more value.

Dr. H. D. Didama next read a paper entitled

### A FEW FADS,

in which he treated humorously and sarcastically of "faded fads," "fading fads," "blooming fads," and "fads in full bloom." Among the first was the "blue-glass fad;" and among the second was the "new elixir fad."

Dr. Alfred L. Carroll being asked to open the discussion, said he thought it might more appropriately be opened by a gynecologist. He ventured to suggest some future fads. For instance, it had been observed that in enteric and malarial fevers, the spleen was enlarged. Removal of the Fallopian tubes had been shown to prevent pyo-salpinx; might not removal of the spleen prevent the development of typhoid fever? Again, an enterprising young surgeon might become notorious and have an income of five thousand a week, based on the fad of extirpating the vermiform appendix of all newly born, and thus removing the cause of many cases of abdominal surgery.

Dr. T. H. Manley read a paper entitled

### SOME OF THE USES OF THE TRANSFIXION LIGATURE.

The author's investigation in this direction had been instigated by a case in which the transfixion ligature saved the life of his patient. While dissecting out tubercularly enlarged glands of the neck, suddenly a large stream of blood gushed out, which he was unable to control by pressure. The common carotid had been opened, and the patient was in imminent danger of exsanguination. Observing a needle with a ligature lying on the table, he hastily passed it under the tissues whence the hemorrhage proceeded, ligated the tissues, and at once the bleeding ceased. The patient was discharged cured after ten days. He then experimented with the transfixion ligature on the cadaver and on dogs, and found that injury to nerves or important parts was not likely to take place in the case of most of the vessels of the extremities, and if antiseptic precautions were observed infection would be avoided. The ligature, of course, was only temporary, to be employed in urgent cases where vessels had been wounded by accident, or in operations in which it was preferable to render the parts bloodless by this method rather than by the Esmarch bandage, etc. He was convinced that the transfixion ligature could be safely and easily applied to any healthy vessel in the external region of the body. Its use being only temporary, injurious results from suppression of function of parts included in the ligature would not be likely to occur; most was to be feared in this respect from its use on the large vessels of the neck, where important nerves might be included. Strict asepsis should exist. He had employed this method while operating for a femoral aneurism, and also in a case of epithelioma of the lip. In the latter instance it was of special value, since it completely controlled hemorrhage, which could not be done in any other way. The method had also been tested and proven efficient in secondary dressing of a wound of the wrist in which the radial and ulnar arteries had been divided. By its use, many lives might be saved on the battle-field, now lost from primary hemorrhage.

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## Second Day, Thursday, September 26th—Afternoon Session.

Dr. John Shrady, of New York, read a paper on

### THE SHADOW LINE OF INSANITY,

in which he pointed out the faint dividing lines between the suspected and acknowledged forms. He said that the harmless classes of cases, attracting as they did but little attention in their several communities, might be developed under favoring circumstances into the more dangerous. They need not necessarily be tabooed or isolated, as they often contributed not a little to the general good, and might be even classed among the children of genius, being somewhat of the nature of excrescences, though of a startling variety. Of such were Coleridge, Lamb, De Quincy, Charlotte Bronté and Edgar A. Poe, all of whom were brilliant and exceedingly unpractical. As long as there were no particular explosive forces at work, they were safe enough, but although not subject to judicial isolation, on account of the law's jealousy for individual liberty, they might well bear watching. There were very few who might be designated as absolutely sane of mind, nor was there any great necessity that they should be thus constituted, since society was the mechanism and man the unit, and society was willing to pay for special graces at special rates. Here the individual is nothing, and society being strong, can well afford to defend itself.

### DISCUSSION ON THE TREATMENT OF HERNIA.

Dr. Joseph D. Bryant, of New York, opened the discussion. Six questions were propounded, and formally discussed by Dr. Bryant and others. They related to mechanical treatment, the injection method, the open or non-open method, medicinal and manipulative methods in strangulated herniæ, the technique of taxis, and treatment when gangrene existed.

Dr. Bryant said there could be no doubt but what the truss cured some cases, but the number was small. He thought, however, that its use should never be entirely dispensed with. The cure by this method was usually in the young. The patient should have three forms of truss, a strong one for use in heavy labor, a light one for use during rest, and a waterproof form for use in the bath. His conclusions on the question of mechanical treatment were: 1. No form of truss could be relied upon to cure any variety of simple irreducible hernia. 2. The manner of treatment of hernia, and that of its so-called cure by mechanical appliances, were such that cure by this means alone could not be relied upon. 3. Relief from annoyance of hernial protrusion might be had by means of hernial appliances to be worn during all unusual physical effort. 4. Apparent cures resulted from the resiliency or contraction of the tissues, and not from inflammatory process set up. 5. A hard, slightly convex pad with elastic steel spring attachment furnished the best hernial appliances. 6. Suspension, elevation, and contraction of irreducible hernial protrusions were the main indications for mechanical treatment. He had had no experience with Heaton's injection method. There were certainly other better operative methods.

Regarding operative methods, he drew the following conclusions:

1. The open method of treatment was the most rational and simplest method for the radical cure of hernia. 2. That the additional time for treatment required by the open method was time well employed, since there was less likely to be a return than from any other method. 3. That the interweaving of the sac with the pillars of the ring (a new method of his own), followed by the open or closed method,

afforded in many cases equal, if not greater, security than any other method.

Morphine injections and hot-water baths with elevation of the part, were the most available means aside from operative interference and taxis. Taxis should not be continued longer than fifteen minutes. That length of time was sufficient if it were properly employed; if not so employed, any length of time was too long. Repeated attempts at reduction by taxis on the part of different physicians was pernicious.

The following conclusions were drawn concerning gangrene: 1. When gangrene of the intestine had taken place and the condition of the patient would permit, intestinal repair should be practised at once and the gut returned to the cavity. 2. When gangrene occurred, presumably involving a portion of the upper two-thirds of the intestine, the intestine should be repaired at once and the gut returned, even if the immediate result should be somewhat doubtful. 3. When gangrene had occurred and the condition of the patient would not permit of immediate operation, a temporary artificial anus should be made. 4. It was better to form an artificial anus when the medical attendant was not acquainted with the details of the more difficult procedure.

Dr. Milligan discussed the mechanical treatment. In the Hospital for the Ruptured at Forty-second Street they had found the simple apparatus of Dr. Knight answer in most cases, but in some other methods had to be resorted to. The instrument demanded differed according to the variety of hernia (he considered only the inguinal), which might be divided into three: (1) Simple bubonecele, without viscus in the canal; (2) where the hernia had passed the external ring without obliteration of the canal; (3) where the canal was obliterated and the external ring enlarged. The first two varieties were controlled by almost any kind of truss. Five kinds of trusses were described.

Dr. Roswell Park discussed the open and non-open operative methods, giving the preference to the former. The cicatrix left by the closed method was much broader, being three-eighths to three-fourths of an inch in width, and must, he thought, undergo stretching and absorption. In his cases the patient wore no truss after the operation, since he believed its pressure encouraged absorption of the cicatricial tissue. He was opposed to injections. The risks of the operation were not greater than those of railroad travel. He was favorably impressed with Dr. Bryant's description of his method of interweaving the sac with the pillars. The last few years he had hardly ever employed drainage, the wound being aseptic. He had operated sixty times, and had heard of a return in only three cases, and suppuration in one or two.

Dr. W. T. Bull, of New York, read a paper on

OPERATIVE METHODS,

in which he cited what he regarded as formidable objections to the closed method, particularly the liability of recurrence. No operation could be regarded as absolutely radical. A return of the hernia had been observed at the Hospital for Ruptured and Crippled in persons who had submitted themselves to the different operative procedures. He reported 72 cases in which he had operated over a year ago. Of this number 38 were treated by ligature, excision, and suture; 34 by ligature and excision. There were three deaths, which, however, could not be attributed to the operation. In 29 cases the hernia was reducible, in 31 irreducible, in 12 strangulated. Of the 78 cases only about 40 were seen after leaving the hospital. The percentage of cases relapsing within twelve months after treatment by ligature and excision, was 62; after treatment by ligature, excision, and suture, 75. The result caused disappointment so far as radical cure was concerned, but when relapses occurred the hernia was less difficult to control by truss. He advised a light truss after the operation. The open treatment reduced to a minimum the danger of septicæmia.

Drs. D. M. Totman and Leroy J. Brooks discussed the medicinal and manipulative methods in

STRANGULATED HERNIÆ.

Dr. Detmold said that, about fifty-two years ago, a young lady, just married, came to him and asked if a hernia could be operated upon. She had a small femoral hernia which her husband took for a bubo derived from improper courses, and refused to have anything to do with her. Dr. Stevens and others discountenanced an operation, and he had at that time no precedent to go by. However, he made an incision down to the crural canal, avoiding the vessels, filled the canal with lint several weeks, and thus cured the hernia. The husband was so moved by the devotion manifested by his wife, that he returned to her and nursed her through the long illness.

Dr. Marcy said the fault with most methods of operating was failure to close the inguinal canal in the oblique line observed by nature. The sac should be removed, the cord pushed inward, a row of sutures placed in the bottom of the wound laying open the canal from the lower angle to the upper, and another row of sutures in the more superficial parts in the opposite direction. Thus, the obliquity of the canal and its normal length were preserved. Animal sutures should be used, buried. He did not confine the patient to bed, nor advise a truss. All who had trouble with the hernia should be operated upon. He believed over ninety per cent. of his cases remained cured, and he had operated about one hundred times.

Dr. E. M. Moore said that about 1837, when he was a medical student, Dr. Pancoast had him bring in four patients with hernia, on whom he made practically hypodermic injections into the sac of tincture of cantharides, with the view of setting up adhesive inflammation and obliteration of the sac. This was done at a time when they had great fears of injury to the peritoneum. The result was what had been desired, the hernia was apparently cured in each instance, although the cases could not be followed up.

When Heaton began his method of treatment, he placed a young man under Dr. Moore's care into whose hernia he injected with a glass syringe (after making an incision with the knife) several drops of oil of cloves. The man afterward followed his former occupation of porter in a hotel, wore no truss, and had no return.

In one case Dr. Moore inserted needles and turned the sac subcutaneously in such a way as to bring its surface together, then inserted a row of pins along the line of the canal and across at the commencement, which held the sac in the new position and caused adhesive inflammation and cure of the hernia.

The subject was further discussed by Drs. Didama, Armstrong, Van Danhoff, and Manley.

At the evening session Dr. E. K. Dunham exhibited lantern views of bacteria, and Dr. Stewart a urethrograph.

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Third Day—Friday, September 27th—Morning Session.

The following papers were read by title: "The Use and Abuse of the Forceps in Obstetrics," by J. P. Garrish, M.D.; "Observations on Dislocations of the Hip," by U. C. Lynde, M.D.; "Two Cases of Angular Deformity of the Knee-joint," by L. H. Sayre, M.D.

Dr. E. K. Dunham, of New York, read the address on medicine (see p. 367) entitled

THE BACTERIOLOGICAL TEST OF DRINKING-WATER,

Dr. H. O. Marcy, of Boston, read a paper entitled

THE CURE OF HÆMORRHOIDS BY EXCISION, AND CLOSURE WITH THE BURIED ANIMAL SUTURE.

The paper covered in a degree nearly the entire field of hæmorrhoids, but dealt more particularly with the operative methods in treatment; pointing out the objections to Allingham's procedure, that by crushing, and by injection of carbolic acid, etc. The method practised by the au-

thor was a modification of Whitehead's, which, he said, was a distinct advance over procedures previously discussed. Among the conclusions were: 1. That the ligation of tissues for the purpose of producing necrosis, and resulting antiseptic decomposition, should to-day be considered unsurgical, and never to be resorted to in any part of the body. 2. The destruction of tissue by the actual cautery was provocative of pain and suffering, and was unwarranted in that it was unnecessary, with rare exceptions, in surgery. 3. The dissection and removal of the hæmorrhoidal plexus of diseased vessels, was as rational and scientific as the dissection and removal of diseased tissues elsewhere; that the danger of hemorrhage from excision of these structures had been greatly exaggerated. 4. That by the method which he (Dr. Marcy) practised, the operation could in no sense be considered a bloody one; it was simple and easy to do after a little experience; there was no material hemorrhage, the important blood-vessels being secured before division by continuous encircling sutures, which served still further the purpose of holding at rest the divided tissues. Necrosis of the parts was entirely avoided, and with the care practised in modern antiseptic surgery the wound was maintained aseptic. The superficial tissues were accurately coaptated, so that no stitch acted as a foreign body. He used animal sutures altogether, that from the tail of the kangaroo, the fascia latæ of the moose, or possibly that of the buffalo, although this could scarcely be obtained on account of extinction of the animal. The advantages of the buried suture over the excision method of Dr. Whitehead were: It secured constriction of the blood-vessels before division; more accurate readjustment and closure of the parts through continuous sutures which were buried and incorporated in the tissues. The time required in the use of interrupted sutures was longer.

Dr. Darwin Colvin read a paper entitled

### REPORT OF A CASE OF ATAXIC PARAPLEGIA.

He first saw the patient, a young farmer, in March last. The preceding January he noticed a weakness of the legs, which, after a time, developed into unsteadiness of gait. At no time had there been pain, but occasionally there was some aching in the sacral region. In March he was walking with a cane, could extend the leg with force, while flexion was weak. Increased difficulty in turning was very apparent. The patella reflex was much exaggerated, and there was well-marked ankle clonus; sensation was unimpaired except very slight numbness and tickling. At no time was there constriction around the waist, no inco-ordination of hands or arms, no loss of sexual power, sphincters normal, no muscular atrophy; inability to stand with the heels together and eyes closed; appetite good. The gait was not that of locomotor ataxia, from which affection the author gave the differential diagnosis.

Dr. Charles S. Bull, of New York, read a paper entitled

### EXTRACTION OF CATARACT WITHOUT IRIDECTOMY, WITH REPORT OF ONE HUNDRED CASES.

Useful vision was regained in all but one. In that one the blind had been rendered blind previous to operations by frequent attacks of iridochoroiditis. No eye was lost from suppuration. Fifty-two patients were males, forty-eight females; the youngest thirteen, the oldest eighty-seven years of age. Complications of different kinds existed in many of the cases. Reduction of the prolapsed iris after the extraction of the lens occurred spontaneously in 56 cases, and was replaced by the spatula in 44. In 83 there was neither incarceration nor secondary prolapse of the iris. In 53 there were no posterior synechia or adhesions of the iris to the lacerated capsule. In 47 these adhesions were present, and in 10 of these they were due to plastic iritis. The healing process was normal in 86, though in some the process was slow. Iritis of the mild plastic type occurred in 10 cases, and retraction of the iris toward the ciliary processes in 3; loss of corneal epithelium in 2, "striped" keratitis in 1. The wound became infiltrated in 3, necessitating the use of the galvano-cautery. Choroiditis and hyalitis occurred in 2 cases, and irido-choroiditis with occlusion of the pupil in 2 cases. Capsulitis occurred in one.

Accidents during the operation were, 1, loss of vitreous in 13; 2, hemorrhage into the anterior chamber in 2; 3, complete collapse of the cornea in 2; 4, dislocation of the lens in 3; 5, the lens was removed with the blunt hook in 5.

The duration of treatment varied from eleven to forty-seven days. Secondary or after-operations in 53 cases. Discission or laceration of the capsule in 50, and excision of a piece of capsule in 3. The resultant degree of vision was as follows: $\frac{20}{15}$ in 26 cases; $\frac{20}{20}$ in 13; $\frac{20}{25}$ in 24; $\frac{20}{30}$ in 22; $\frac{20}{40}$ in 21; $\frac{20}{100}$ in 10; $\frac{20}{200}$ in 2; counting fingers at several feet, in one.

### DISCUSSION ON THE NEW HYPNOTICS.

Dr. W. H. Flint, before reading his paper opening the discussion, permitted Charles Rice, Ph.D., to first make his remarks. Mr. Rice said the demand for the new hypnotics was in about the following order, beginning with that least consumed: Hypnon, amylene hydrate, urethral, sulphonal, paraldehyde. Paraldehyde was used more than sulphonal because cheaper. Hypnon was objectionable because of its disagreeable taste; amylene hydrate because of its bad after-effect. Sulphonal was the best hypnotic of the group, but was almost insoluble in water, and it was difficult to get a quick effect from it.

The white crystalline sulphate of hyoscyamin was cheaper than the alkaloid hyoscine, but the latter was much more efficient as a hypnotic and would, when it should become cheaper, take the place of the former.

Dr. Wm. H. Flint reviewed the literature of the new hypnotics, and then gave conclusions based principally on his own experience with them. He had used sulphonal most as being the most efficient or desirable of the new hypnotics. Its physiological action had not yet been thoroughly established. As a hypnotic it was valuable in some forms of insanity, neurasthenia, acute sthenic febrile diseases, opium habit, gastric irritability, and some cases of anæmia. In gastralgia, gastritis, and some other conditions, it was contra-indicated. Toxic symptoms were not likely to manifest themselves unless the dose exceeded thirty grains in the adult. A large dose caused fatigue, depression, vertigo, tinnitus aurium, and œdema of the eyelids; it might cause even collapse. It was best administered by the mouth, with hot beverages or liquid food an hour and a half before the desired action. He had not yet seen a sulphonal habit. There had been about eighty per cent. of successes in his cases. He had administered amylene hydrate in thirty-eight cases of insomnia, in various diseases, obtaining hypnotic effects in over seventy per cent. Its physiological effects were similar to those of alcohol. Its odor was disagreeable It should not be given in gastric disease, because slightly irritating. He had recently used paraldehyde in thirty-five adult cases for insomnia, with successful results in seventy-two per cent. It was not irritating to the stomach. If too large doses were given a long time, a condition resembling chronic alcoholism might develop. It was best given in soft capsules. He spoke less favorably of the other hypnotics.

Dr. John G. Truax continued the discussion with a paper. Sulphonal had proven, in his experience, more effectual, and applicable in a larger number of cases, than any of the other new hypnotics. It had been of most benefit in the restlessness, cough, and slight pains of phthisis pulmonalis. The conditions in which the new hypnotics were useful were those in which there was not much pain nor acute inflammation, absence of violent mania, where delirium did not depend upon congestion. They would not take the place of the older hypnotics in the class of cases in which these were applicable.

Dr. Squibb expressed some hesitation in discussing the

subject. His views were conservative. The new hypnotics were large in number, and would yet be larger. The same was true of the opium preparations ten years ago. This could be largely accounted for by the remark of one of the speakers, that there were "millions in it" to the successful advertiser.

It would be observed that none were susceptible of hypodermic use; they were slowly absorbed, owing to the nature of the fluids in the stomach. In the stomach of the healthy, who needed no hypnotic, sulphonal was absorbed more readily. Artificial alkaloids were being constantly made by the chemist from natural sources. The molecules of a given agent, as that from which hyoscin or quinine were obtained, had their cleavage in different directions, according to the reagent applied, and thus was produced the alkaloid or derivation leading up to it, but which had no existence prior to the labors in the laboratory.

### A CASE OF AMPUTATION OF THE HIP-JOINT WEARING AN ARTIFICIAL LEG.

DR. L. H. SAYRE presented a young man who, about seven years ago, suffered from an attack apparently of rheumatism of the right knee. He continued an invalid from knee-joint disease until about six months ago, when Dr. Reginald Sayre performed amputation at the junction of the lower with the middle third of the femur. It became evident afterward that disease existed in the hip-joint, and it was decided to amputate in a manner, if possible, to permit of future use of an artificial limb, instead of in the old way and condemning the patient to the use of crutches all his life. Consequently the circular incision through the soft parts was made below the trochanter, and the femur enucleated through a longitudinal incision reaching above the trochanter. When presented, the patient was wearing an artificial limb for the second time, the muscular stump supplying attachment and motion. He believed that to his brother belonged the credit of doing this operation for the first time.

DR. L. A. SAYRE said he had suggested a similar amputation with the same object in view, fifteen years ago, but had not had occasion to perform it. He was delighted at the result in this case.

DR. JOHN G. ORTON was elected president for the ensuing year.

## Correspondence.

### INTUBATION FOR THE REMOVAL OF FOREIGN BODIES.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The interesting case reported by Dr. S. J. Meltzer in THE RECORD of September 21st, in which intubation was successfully practised for the removal of a foreign body from the air-passages, suggested the following remarks:

The size of the croup tubes was not modelled after the normal larynx, but they were so constructed as to avoid dangerous pressure when the lumen of this organ is almost obliterated by inflammatory infiltration of its mucous membrane and submucous tissues. To facilitate the extrusion of foreign bodies from the air-passages, therefore, a tube of much larger calibre can be used. It should be constructed as follows: not over an inch long, cylindrical in form, of very thin metal, perfectly straight, with small flanges laterally, none anteriorly, and having a bore at least three times as great as that of the tubes now used in the treatment of croup. The obturator should fit perfectly at the distal end, otherwise it would be difficult to insert.

No retaining swell is necessary, as the size alone is sufficient to hold it in place.

With a strong string attached, such a tube may be allowed to remain in the larynx twenty-four hours if required, without injury, but if retained for the same length of time in a case of croup would undoubtedly produce sloughing of mucous membrane of the subglottic division of the larynx. This is the smallest portion of the upper air-passage, and at the same time the most unyielding, because it is completely surrounded by cartilage. There is no danger of injury to the vocal cords, even if worn for a much longer time.

Foreign bodies enter the larynx during inspiration, when the vocal bands are widely separated, but their expulsion is prevented by the spasm excited by the slightest irritation applied to the under surface of these bands.

The introduction of such a tube as I have described overcomes this difficulty, and at the same time gives rise to a violent attack of coughing, which should prove successful in the great majority of these cases when the foreign body is not impacted in the lower air-passages.

Taking advantage of gravity by holding the patient's head downward, as was practised by the mother in Dr. Meltzer's case, is also worth trying, particularly if the foreign body be heavy.

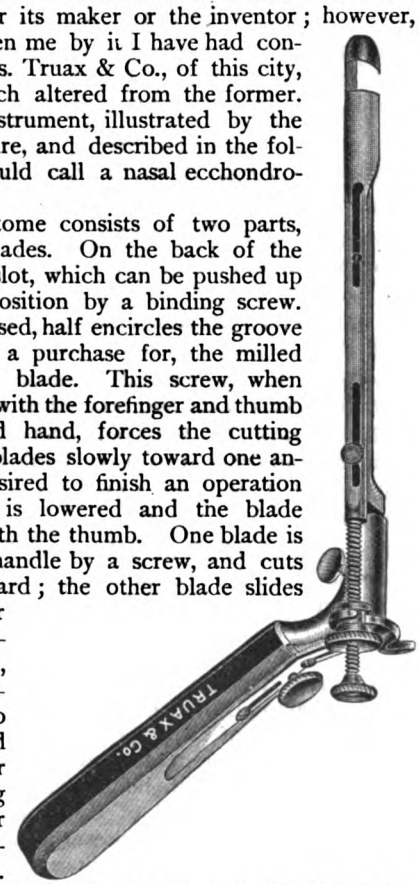
J. O'DWYER, M.D.
967 LEXINGTON AVENUE.

## New Instruments.

### A NASAL ECCHONDROTOME.

BY MOREAU R. BROWN, M.D.,
PROFESSOR OF RHINOLOGY AND LARYNGOLOGY AT THE CHICAGO POLICLINIC, CHICAGO, ILL.

SOME time since, a foreign-made instrument, said to have been intended for the purpose of operating on the nose, was put into my hands. I have not been able to ascertain the name of either its maker or the inventor; however, from the idea given me by it I have had constructed by Messrs. Truax & Co., of this city, an instrument much altered from the former. This improved instrument, illustrated by the accompanying figure, and described in the following lines, I would call a nasal ecchondrotome.




The ecchondrotome consists of two parts, the handle and blades. On the back of the former is a steel slot, which can be pushed up and fastened in position by a binding screw. The slot, when raised, half encircles the groove in, and thus forms a purchase for, the milled nut on the short blade. This screw, when turned, preferably with the forefinger and thumb of the disengaged hand, forces the cutting edges of the two blades slowly toward one another. If it is desired to finish an operation rapidly, the slot is lowered and the blade pushed forward with the thumb. One blade is made fast in the handle by a screw, and cuts from within outward; the other blade slides along the former and cuts in the opposite direction, *i.e.*, from without inward. The two screws which hold the blades together prevent the cutting edges of the latter being pressed together and blunted. The blades can be turned so as to operate in either the left or right nasal cavity.

This instrument will take the place of the saw, the knife, and the chisel in many intranasal operations, particularly in removing ecchondroses and cancellous exostoses, which comprise, as is well known, the majority of all growths from the septum of the nose.

In suitable cases one can operate more rapidly and easily with the ecchondrotome than with any other instrument.

In using the knife to remove cartilaginous growths from the septum the operation must often be finished with the saw or chisel: not so with the ecchondrotome, as it will readily cut its way through these formations.

The principle on which this instrument works is similar in some respects to the Mackenzie tonsillotome.

126 STATE STREET, CHICAGO, ILL.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 22 to September 28, 1889.*

POPE, BENJAMIN F., Major and Surgeon. By direction of the Secretary of War, the leave of absence granted in S. O. No. 54, August 17, 1889, Department of Texas, is extended one month. Par. 6, S. O. 224, A. G. O., September 26, 1889.

LORING, LEONARD Y., Major and Surgeon. By direction of the Secretary of War, his station is changed from Fort Mojave, Ariz. Terr., to Fort Wingate, N. M., and he will report for duty at the latter place accordingly. Par. 7, S. O. 219, A. G. O., September 20, 1889.

CHAPIN, ALONZO R., Captain and Assistant Surgeon. Granted leave of absence for fourteen days, with the approval of the Secretary of War. Par. 10, S. O. 223, A. G. O., September 25, 1889.

BURTON, HENRY G., Captain and Assistant Surgeon. By direction of the Secretary of War, will report in person on expiration of his present sick leave of absence, to the commanding officer at David's Island, N. Y., for temporary duty at that station, and by letter to the superintendent recruiting service. Par. 3, S. O. 223, A. G. O., Washington, September 25, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending September 28, 1889.*

GORGAS, A. C., Medical Director. Detached from Examining Board and ordered to hospital, Philadelphia, Pa.

HORD, W. T., Medical Director. Detached from hospital, Philadelphia, Pa., and to wait orders.

BOGERT, E. S., Medical Inspector. Detached from New York Navy Yard and ordered to Examining Board.

MCMURTRIE, D., Surgeon. Detached from U. S. S. Vermont, and ordered to Navy Yard, New York.

BABIN, H. J., Surgeon. Ordered to the Receiving Ship Vermont.

HALL, C. H. H., Passed Assistant Surgeon. Resigned from the Naval Service, to take effect November 1, 1890, and resignation so accepted.

FOR THE RELIEF OF CORYZA.—Dr. Köhler recommends inhalations of camphor as affording great relief in the early stages of an acute coryza. He puts one teaspoonful of powdered camphor in a rather deep vessel, half fills the latter with boiling water, and covers it with a paper cone. The end of this cone is torn off so as just to admit the nose. The warm camphor-laden vapor is then inhaled through the nose, not the mouth, for a period of from ten to fifteen minutes. This procedure is repeated every four or five hours. After the third inhalation, even the most stubborn catarrh, says Dr. Köhler, will be found to have completely disappeared. Any laryngeal catarrh, which may be present at the same time, will be found to be considerably benefited by the action of the camphor vapor.—*Zeitschrift für Therapie.*

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending September 28, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 58 | 7 |
| Scarlet fever | 26 | 3 |
| Cerebro-spinal meningitis | 0 | 0 |
| Measles | 10 | 1 |
| Diphtheria | 57 | 17 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

FRAULINA SCORBILIS IN DYSENTERY.—Dr. Aphel has obtained good results in the treatment of dysentery by means of fraulina scorbilis. He employs the powder in doses of seven grains every two or three hours. It possesses a stimulant and local astringent action, and is indicated chiefly in adynamic forms of the disease.—*Los Avisos Sanitarios.*

ANTIPYRIN IN DIABETES.—Drs. Gley and Germain Sée report a number of cases of artificial glycosuria in dogs, in which the good effects of antipyrin in this affection were well illustrated. To a dog passing thirteen grammes of sugar a day, one gramme of antipyrin per diem was given for eight days, at the end of which time the amount of sugar had fallen to eleven grammes. At another time the quantity of sugar was reduced by the same means from about ten to less than six grammes. Dr. Sée has also employed the drug in the treatment of glycosuria in the human subject with good results. Lépine and Porteret have shown that antipyrin has the effect of retarding the transformation of glycogen in the liver and muscles into glucose. M. Huchard has previously related several cases of polyuria and glycosuria, in which the exhibition of antipyrin was followed by good results. The latter author believes that this drug has a special utility in bulbar neuroses, among which he classes diabetes, polyuria, and exophthalmic goitre.—*Revue Générale de Clinique et de Thérapeutique.*

LEMON-JUICE IN NOSEBLEED.—In a case of rebellious epistaxis, which had resisted various modes of treatment, including plugging of the anterior nares, Dr. Fauchon obtained a cure by means of the local application of lemon-juice. An injection of the juice was made by a glass syringe into the nostril from which the blood was escaping, with the result of immediately arresting the hemorrhage.—*Revue Générale de Clinique et de Thérapeutique.*

TREATMENT OF THE POTATO DISEASE.—At a recent meeting of the Academy of Sciences of Paris, M. Prilleux sent a communication upon the treatment of potato disease by means of a copper solution which had been found useful for a similar affection of tomato plants. He experimented with some potato plants which were found to be in the initial stages of the disease although there were quite a number of black spots on the leaves. He selected nine hills for the experiment, reserving six others, without treatment, to serve for comparison. The liquid was carefully applied with a watering-pot so as to thoroughly wet all the leaves. The potatoes were dug up eleven days later, when from the nine hills treated one hundred and fifteen healthy potatoes were taken, none of which were diseased. From the six hills reserved for comparison fifty-three tubers were taken, and of these seventeen were diseased. The solution, called "bouillie bordelaise," was composed of six parts each of sulphate of copper and of chalk in one hundred parts of water.—*Journal d'Hygiène.*

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

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## Original Articles.

### THE RELATION OF DIET TO URIC-ACID FORMATION.[1]

By WILLIAM H. DRAPER, M.D.,

NEW YORK.

IT is not my purpose in this brief paper to discuss the question of the origin of uric acid. Whether this substance is the penultimate of urea, or the result of the imperfect metabolism of glycocin in the liver, are questions which are still involved in much obscurity. Nor do I intend to consider the relations of the real or apparent increase of uric acid and its salts in many pathological conditions that come under the observation of the practical physician, such, for example, as the febrile state, cirrhosis and cancer of the liver, splenic leukæmia, and many other diseases. I desire simply to call attention, very briefly, to the relation which deposits of uric acid and its salts bear to the ingestion of particular classes of foods, and their association with the special forms of indigestion which are observed in lithæmia and gout.

It is important to premise, however, that, in all probability, deposits of uric acid are properly to be considered as the indication and measure of the acidity of the urine, and consequently of the diminished alkalescence of the blood, and not perhaps so much the cause of the symptoms with which they are associated as themselves one of the effects of the imperfect blood-elaboration which is essentially the antecedent of the lithæmic state.

The blood, it must be remembered, in spite of the amount of acid material which enters it, always presents an alkaline reaction, and the maintenance of healthy nutrition doubtless depends upon the preservation, within certain limits, of what may be termed normal alkalescence. This equilibrium is secured partly by the organic and inorganic salts of the alkaline bases which are ingested with the food, and partly through the discharge of acids by the lungs, the stomach, the skin, and the kidneys. Whatever, therefore, tends to disturb this equilibrium must do so either through some defect in the conversion of the food-supply, or in the mechanism by which an excess of acid is removed from the body.

Assuming that uric acid is only one of the products of imperfect metabolism, and that it is associated with a diminished alkalescence of the blood, its relation to diet would seem to depend largely on the manner in which certain articles of food affect the reaction of the blood. Though the salts which are contained in our food are for the most part alkaline, a considerable amount of acid salts, such as the bicarbonates and acid phosphate of sodium, enters the circulation in the ingesta; another source of free acid is that which is present in wines and beers, and still another, and perhaps the most important, is found in the process of fermentation which goes on in the alimentary canal in the saccharine, amylaceous, and fatty elements of the food. It is especially in connection with the acid dyspepsia to which this fermentative process gives rise that we find deposits of uric acid and its salts. It is this form of indigestion, moreover, which is associated with the so-called lithæmic symptoms, and which is often antecedent to the development of gout.

[1] A paper read before the Practitioners' Society, May 24, 1889.

The generally received opinion is that an excess of albuminous food is the source of any excess in uric-acid excretion, and the practical deduction from this view is that nitrogenous foods should be more or less strictly prohibited in the diet of lithæmic subjects. While there can be no doubt that a nitrogenous diet increases, *pro tanto*, the amount of urea excretion, it is not so clear that it increases in equal proportion the uric-acid excretion; and inasmuch as a very large apparent increase of uric-acid excretion often occurs with a non-nitrogenous diet, it seems probable that deposits of uric acid and its salts in the urine are not so much the result of an excess of nitrogenous foods as of some condition of the blood which affects the solubility of this substance. The clinical evidence, based upon the effects of certain kinds of foods in producing showers of uric acid and sediments of urates in the urine, would seem to indicate that these phenomena are the result of an imperfect conversion of the carbohydrates, which gives rise to the introduction into the circulation of acids which diminish the alkalinity of the blood, and so impair its solvent power over uric acid.

It is the evidence of this nature, derived from a considerable clinical experience, to which I wish to ask your consideration. Many years ago my attention was called to the fact that gouty and lithæmic subjects exhibited a striking inability to digest the carbohydrates. I observed this in the victims of acquired as well as of hereditary gout, but especially in the latter, and often at a very early age. This inability to convert the carbohydrates I found manifested itself primarily in an acid dyspepsia, with increased acidity of the urine, with showers of uric-acid crystals or deposits of urates; and, secondarily, in the nervous derangements and the catarrhal lesions of the skin and mucous membranes which characterize the lithæmic state. Closer observation led me to the conclusion that the essential, and often the only successful, means of combating these derangements was the withdrawal, more or less complete, of the sugars and starches from the diet.

I am aware that the necessity for restricting the use of the carbohydrates in the dietary of gouty and lithæmic persons is now pretty generally recognized; but I think that the opinion still largely prevails that animal foods are not only responsible for the origin of gout and lithæmia but that the rational treatment of these disorders necessarily involves the more or less strict prohibition of these foods. So general, indeed, is the prejudice against the use of nitrogenous articles of diet in the treatment of gout—a prejudice founded mainly upon the teachings of the English authorities upon this disease—that it is only within a comparatively recent period that there has been any question about its correctness. Some of the later authorities, however, both German and English, recognize the baneful effects of the carbohydrates in the diet of gouty subjects, and strongly urge a diet composed largely of animal foods. My own experience leads me to believe that in aggravated cases of the morbid conditions under consideration a diet as rigidly exclusive of the carbohydrates as that required in glycosuria is necessary to control uric-acid formation and its consequences. The failure to recognize this fact often interferes very seriously, in my judgment, with success in the management of severe cases of this nature, for there is no therapeutic measure which, so far as I know, can compare with a properly regulated diet in controlling and preventing the miseries which are incident to this special derangement of nutrition.

Even those who are inclined to acknowledge the gen-

eral truth of this statement fail sometimes to appreciate the necessity of attention to details in carrying out the principle involved in what may be called the anti-lithæmic diet. It is only by careful observation and experiment in any given case that the dietetic cause of lithæmia can be ascertained. In the group of carbohydrates and their derivatives which enter into an ordinary dietary, it is often only necessary to exclude the fermented preparations of alcohol to correct the tendency to uric-acid formation. Wines and beers are perhaps more often responsible for this condition than any article of table use. After these I am inclined to class fruits as a frequent cause of lithæmia. It is not an uncommon experience to see attacks of gout even provoked by strawberries, watermelons, apples, and oranges, as readily as by Madeira and Burgundy. The reason why fruits are so prone to produce in gouty subjects primary and secondary derangements of digestion, is probably because of their saccharine property. They are to be classed among the sweets, and, as I have remarked, are often more apt to excite and perpetuate the lithæmic condition than other forms of sweet desserts. The cases are not very rare, in my experience, in which the exclusion of the carbohydrates may need to be extended to the farinaceous foods. I have known instances in which an almost absolute exclusion of them was required in order to control an acid dyspepsia, with its concomitant phenomena of uric-acid showers and deposits of urates.

I would not be understood as affirming that anything like the rigid exclusion of carbohydrates from the diet of lithæmic persons, which I believe to be sometimes necessary, is often required. Experiment only can determine what particular group of this class of foods is the source of mischief in the digestive process. It may be the fermented liquors, it may be fruits, it may be the sweet desserts, it may be the farinaceous foods, and it sometimes happens that the lithæmic subject will have to be as strictly debarred from indulgence in all of these things as the glycosuric.

There is one point in regard to lithæmia and its relation to diet to which it is important to refer, and that is, that the inability to convert the carbohydrates which we believe to be the real source of this condition, is occasionally intermittent, and is apparently excited or aggravated by nervous exhaustion from any cause, such as overwork, anxiety, or insomnia. This is especially common in neurotic persons. It is needless to observe that it is more common in persons of sedentary habits and intellectual pursuits, and its frequency is probably largely due to the failure to adapt the diet to the kind of work which the individual is called upon to perform. There seems to be good reason to believe that a diet composed largely of farinaceous foods is best adapted for the evolution of muscular work, since such a diet requires for its complete combustion a larger supply of oxygen; while for mental labor, and for the occupations which require only a limited amount of mechanical exertion and necessitate an indoor life, a diet composed largely of nitrogenous elements is most readily and perfectly assimilated. This idea, as far as a non-nitrogenous diet is concerned, is in accordance with what has been found by practical experience to be the most successful method of regulating the diet of animals and men from whom a long and steady evolution of muscular work is required. In regard to the superior adaptation of the nitrogenous foods for the development of the higher forms of vital energy the evidence is perhaps not so clear, though the experience of practical physicians in dealing with the common dyspeptic ailments of intellectual workers would tend, I think, to justify such a conclusion.

I have thus indicated in a brief and very imperfect manner what my own observation at least leads me to believe is the relation of uric-acid formation to diet. So far as the chemistry of this relation is concerned, I am aware that the explanation I have suggested is more or less speculative, and is, perhaps, entirely false. The points upon which, in conclusion, I would lay stress are: 1st, That deposits of uric acid and its compounds in the urine do not necessarily indicate so much any considerable increase in the formation of this substance as they do a condition of the blood which affects its solubility and the facility of its excretion. 2d. That this condition of the blood is one of diminished alkalescence. 3d, That this diminished alkalescence is produced by the entrance of acid substances into the circulation, largely through the fermentation in the alimentary canal, or the imperfect conversion by the liver of the saccharine and farinaceous elements of the food. 4th, and finally, That clinical experience, which, after all, in the present state of our knowledge of the chemistry of digestion, is our best guide, tends to show that the withdrawal, more or less complete, of the non nitrogenous foods, and the allowance of a larger admixture of the nitrogenous elements, constitute the most efficient means of controlling the formation and excretion of uric acid and the protean functional and tissue derangements which belong to the lithæmic state.

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## A MALIGNANT TUMOR IN AN UMBILICAL HERNIAL SAC, WITH REMARKS ON THE ETIOLOGY OF CANCER.[1]

By DANIEL LEWIS, M.D.,

SURGEON TO THE NEW YORK SKIN AND CANCER HOSPITAL.

Mrs. B——, a widow, aged sixty-seven years, had suffered from umbilical hernia fifteen years, but had never worn a truss, having always reduced the protruding intestine easily and frequently, until about a year before applying to me for treatment.

She then began to suffer pain about the umbilicus, and so much soreness, that for the three preceding months she had not attempted to replace the tumor. The pain increased rapidly, and radiated to the stomach and pelvic regions, and a marked failure in flesh and strength, frequent vomiting, constipation alternating with diarrhœa, sleeplessness, and fever, compelled her to seek advice.

A monthly metrorrhagia of more or less severity had excited no especial surprise in the patient's mind, although continued more than twenty-five years beyond the usual period.

Upon examining the supposed hernia, I found a hard, nodulated tumor of a bluish-red color, the surface of which was slightly ulcerated, in the fold of skin at the upper portion. It extended nearly an inch beyond the border of the hernial ring, seemed quite movable with the skin, and it was a hope shared by Dr. S. N. Brockway, who saw the case with me, that the disease had not invaded the peritoneal cavity. An operation was advised, and after the patient was etherized, so that a thorough examination of the base of the tumor could be made, it was found to invade the ring, and all hope of a slight operation was abandoned. An elliptical incision being made, the tumor was dissected out as far as the ring, and then carefully examined for any intestinal contents. It evidently contained no gut, and was removed in order to facilitate examination of the parts beneath. The sac contained some omentum which was not diseased. The subperitoneal tissue was infiltrated as far as the finger could reach. It was thoroughly removed, and the wound then closed as after ovariotomy.

The patient rallied well after the operation, but died sixty hours afterward, apparently from shock, no peritonitis having developed.

It should be stated that an examination, while the patient was under ether, revealed a much enlarged cervix, but no sign of cancer, although the body of the uterus was so large as to suggest the possibility of its being the seat of malignant disease.

The first section from the apex of the tumor proved to be a large, round-celled, alveolar sarcoma.

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[1] Read before the Medical Society of the County of New York.

The second section was from a portion of the base of the tumor just outside the neck of the sac, and is of especial interest on account of the gland-tissue which it contains, the origin of which is believed to be embryonic.

Dr. George T. Elliot has very kindly furnished me the following description of this rare form of tumor:

"The portions of the tumor removed from the umbilical region, which were received by me for microscopical examination, were hardened in alcohol, and the sections were stained with borax-carmin and pyrogallic acid and iron.

"It was not difficult to determine the nature of the growth, since portions of the sections were found composed of small spindle-shaped cells, with here and there a few large round cells, while in others these latter were arranged in more or less large alveoli formed by the bundles of connective tissue. In many of these alveoli, capillary blood-vessels, which were abundant throughout the tissue, penetrated in between the cells contained in them. From these features it was evident that the new-growth was a sarcoma composed of mixed cells, spindle-shaped and round.

"In addition to the sarcomatous tissue, however, there were found other histological elements which greatly increased the interest taken in the specimen. Distributed throughout the sections, more or less abundantly, glandular tissue was found, which was in every way identical with the glands of Lieberkuhn existing in the small intestines.

"The glands were composed of a basement membrane and columnar epithelium, and they were separated from one another by more or less connective or sarcomatous tissue. Some were unchanged, others were hyperplastic, while still others had undergone cystic degeneration.

"The tissue between them was more or less infiltrated with small round infiltration-cells.

"The presence of the intestinal glandular tissue in this tumor is not an extraordinary fact, but yet one which is rarely met with. Growths of this class occur at the umbilicus, and are known under the name of enteroteratoma. To understand the occurrence of these growths, it must be remembered that in fœtal life the ductus omphalo-mesentericus is prolonged into the umbilical cord, but normally disappears before birth. Abnormally, however, it may persist and develop into a tube resembling intestine, and either form a congenital diverticulum of the small intestines, or more rarely, if this development has occurred in the portion of the duct situated just in front of the navel, there remains a small tumor after the falling off of the severed umbilical cord.

"This seems to be the only way in which the presence of the intestinal glands in the tumor could be explained, that is, that the original growth was an enteroteratoma to which no attention had been paid, but which persisted and finally underwent sarcomatous degeneration. It seems, however, remarkable that it should have persisted so long before undergoing change."

The details of this case have been quite fully given for two reasons. In the first place, it is the only recorded case, as far as I have been able to learn, where malignant disease has been developed in an old hernial sac; and, secondly, its appearance therein is new evidence in favor of the fact, now fast becoming accepted by surgeons, that diseases which are perfectly non-malignant in the beginning may, and often do, prove to be the exciting cause of cancer.

Before proceeding further, permit me to state what we mean by the term "cancer." Much confusion still exists on that point, owing to the various diseases to which the term has been applied by different authors. Dr. Snow enumerates the following characteristics belonging to cancer:

1. Resistance to all known medicinal agents.
2. Proneness to invade other organs and tissues of the body than those in which it has originated.
3. Liability to recur after removal by caustics or the surgeon's knife.
4. The pain to which it commonly gives rise.
5. The tendency to destroy life.

Upon this basis the name of "cancer" becomes simply a general term to be used for convenience, to indicate any neoplasm which presents the characters enumerated, whether it be carcinoma in any form, any variety of sarcoma, epithelioma, or lymphadenoma.

This use of the term seems to me not only reasonable, but almost a necessity, for the accurate nomenclature of these malignant diseases can only be made by the microscopist, and is seldom necessary in determining the course of treatment which should be adopted.

The discussions concerning the etiology of cancer may all be classified under three heads, viz.: 1, Hypothesis; 2, analogy; 3, fact.

Under the first head we find the old theory of a dyscrasia—a peculiar condition of the blood manifested in the form of cancer. In the same category come those whose supposition is that heredity is the cause of cancer in a majority of cases, and Sir James Paget believes in all cases, if we could know the correct history.

In other words, because your paternal grandmother died of a cancer of the uterus at the age of fifty, and your brother's son, aged twenty-five, has a sarcoma of the neck or an epithelioma of the neck. we should attribute it to heredity as a cause. There would be just as much reason in attributing every other disease to heredity, for have we not all suffered more or less from disease with which our near and remote kinsmen were afflicted? The fact is that the distribution of a disease as prevalent as cancer would of necessity affect a relative of yours or mine now and then.

Among nearly two hundred cases of tumors, mostly malignant, in my own practice, not ten per cent. give any family history of cancer.

The attempt to definitely and forever settle the etiology of cancer, by comparing it with tubercular disease as its analogue, is now in the height of public and professional favor.

Nearly all writers on cancer, for the past hundred years, have discussed the same question, and arrived at varying conclusions, all agreeing on one point only, that both diseases usually terminate fatally.

Since Koch's discovery of the bacillus of tubercle, we have been told that the bacillus of cancer would soon be discovered. A committee appointed by the British Medical Association, after a very careful investigation, has reported a negative result.

Scheurlen's discovery of the bacillus of cancer has not been confirmed by others, or successfully maintained by himself. There, however, remains the possibility, and even hope, that the microscope will yet reveal the actual cause of cancerous growths; but even then we shall be obliged to depend upon facts gleaned from clinical experience for effective methods of treatment. Hence the history of such a case as we have described becomes important, as it presents an unusual, if not unique, instance of the long continued irritation of an unretained hernia, finally causing a neoplasm of a very malignant type.

Nothing can be plainer to a careful observer than that a prolonged local irritation, such as a broken tooth upon the lip or tongue, inflamed hemorrhoids in the rectum, or chronic inflammation in a lacerated cervix uteri, will very often cause cancer. This case adds another possible cause, and there can be little doubt that if, in the precancerous stage, as Mr. Hutchinson has named it, a proper truss had been applied, she would have been alive to-day.

The statement has been made, concerning traumatism in these cases, that a prolonged irritation will cause carcinoma, while a sudden injury, like a single blow upon the breast, will be followed by a sarcoma, in case any tumor occurs. From a study of my own cases, there seems to be no foundation for the opinion. It is a matter of no clinical importance, however, as one variety is liable to be as malignant as the other.

Statistics are not yet ample enough to be of great value on this subject, but enough is known to justify the statement that traumatic causes play an important part in the etiology of cancer.

Tumors of non-malignant type often prove a source of irritation to adjacent tissues, and so cause cancer, or the tumor itself degenerates into a disease of a malignant character. Of this class the following is a good illustration: A man, aged fifty-five, with a wen on the vertex, one inch and a half in its longest diameter, which had existed for a score of years or more, accidentally struck it against a sharp piece of wood, which, if I remember rightly, caused slight bleeding. Inflammation of the tumor followed, then ulceration and sloughing, which was followed, after a few weeks, by cancerous disease of the entire border and even base of the ulcer. There was no family history of cancer.

The instances in which cancer has developed in congenital moles, warts, in syphilitic ulcers of the tongue and lips, in the penis where an old phimosis has irritated the organ, and in cicatrices of various kinds, more especially after burns, have been often noted.

Dr. A. D. Pomeroy referred a patient to me a few days ago, who was injured several years ago by a splinter of hot iron striking the bridge of the nose, and glancing to the right, ploughed its way nearly to the internal canthus. It healed pretty promptly, but had always been a little tender near the eye. For a few months past it has been more troublesome, and when he presented himself at the clinic a well-marked epithelioma had developed in that portion of the cicatrix nearest the angle of the eye. In the meantime, since the injury the man had reached the age of forty-nine, when cancer is much more liable to occur than in earlier years.

At least four cases are now on record where epithelioma has developed on a psoriatic base—two by Dr. White in 1885, one by Cartay in 1878, and one by Hebra.

In White's and Hebra's cases there was a transition of warty growth of the plaques, a form to which the name psoriasis verrucosa is given. These cases, while showing that psoriasis is not simply a parakeratosis, but also of inflammatory nature, renders a prognosis of much greater moment in cases where any appearance of a warty growth is manifested

All these instances simply teach us that any prolonged irritation in organs most subject to cancer is liable to set up the disease, and, from the practitioner's stand-point, the successful treatment of such cases depends to a great extent upon prompt and thorough eradication of all these predisposing causes of the disease when possible.

Before closing, permit me to enter a strong protest against the common practice of trying the effect of mild caustics, such as nitrate of silver, pyrogallic acid, resorcin, and many others, upon these malignant diseases. Nearly always such applications stimulate the progress of the disease, and very seldom do any good whatever. This is eminently true of the galvanic current as applied to the surface of tumors.

A scirrhous tumor of the breast, which the physician in charge permitted me to examine recently, had made such remarkably rapid progress that some special cause was sought for, and found, as I believe, in the mild and frequently repeated galvanization of the tumor by an overzealous advocate of that remedy.

62 Park Avenue.

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Is Saccharin Injurious?—M. Dujardin-Beaumetz having been quoted as saying that saccharin was injurious, writes to the *Journal de Médecine de Paris* that he was misrepresented. He regards saccharin as a most valuable acquisition in the dietetic treatment of diabetes. But what he had protested against was its use in the adulteration of food. Such use, he maintained, was not only fraudulent but was injurious, not because the substance is in any sense poisonous, but because it is innutritious, and the consumer gets what he supposes is a food but which is not.

## A CASE OF RHINOLITH AND TWO CASES OF A TOOTH IN THE NOSE.

By JONATHAN WRIGHT, M.D.,

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While rhinoliths are by no means very frequently found, yet they are not so rare as to be unknown in the experience of any laryngologist who sees annually a large number of cases of nasal disease. They are more often seen in dispensary practice than among private patients. This, no doubt, is due to the neglect of symptoms caused by the presence of a foreign body in the nose among this class, and to the fact that the children of well-to-do parents are more carefully watched, and the introduction of foreign bodies prevented or detected. A rhinolith always has as a nucleus a foreign body which, in the great majority of cases, whatever the age of the patient, has been introduced into the nose during childhood, although it is the exception to obtain a history of the event. After the lapse of time it gradually becomes coated with lime-salts, deposited upon it by the nasal secretions, rendered abnormally abundant by the irritation of its presence. The longer it remains the larger it grows, and the greater the local irritation it causes. The nucleus is most frequently a relatively small object, because a large one soon causes such symptoms as to be noticed by the parents of the child. or by the patient himself, and thus becomes the subject of investigation. The nucleus may be anything, and nearly everything has been found, from shoe-buttons and pieces of coal, to maggots and parasites. The rhinolith, as it grows by the accretion of lime-salts, hollows out for itself a cavity in the nasal fossa, usually the inferior meatus, and this cavity may be of considerable size. The bony walls may be encroached upon, causing necrosis of bone, but the destructive process is rarely, if ever, extensive. After a time, a condition of the nose exists which, at first glance, has every appearance of idiopathic ozæna. There may even be atrophy of the mucous membrane. This appearance is always unilateral, while ordinary ozæna rarely, though occasionally, is. A frequent symptom is excessive epistaxis, especially when the nasal fossa is probed. The foul smell, which may be that of necrosed bone, often resembles syphilitic ozæna. Pain of varying intensity may be present, as well as various reflexes, such as sneezing, coughing, asthma, neuralgias—in short, any or all the symptoms due to intra-nasal pressure, or to irritation from other causes.

The nasal discharge is usually copious, and may be thick, forming crusts easily, or muco-purulent, stained with blood, or simply watery. Occasionally portions of the lime salts may come away with the discharges, the patient speaking of them as "gritty." Such symptoms, when unilateral, are almost pathognomonic of a foreign body in the nose, which may or may not have lime-salts around it.

A rhinoscopic examination reveals, as a rule, no foreign body to the view, because it is imbedded in its cavity and surrounded by hypertrophic mucous membrane; cleansing the nasal fossæ by a spray fails to bring it to sight. The application of cocaine, by shrinking the tissues and enlarging the field of vision, may often disclose the source of the trouble. The probe is the most reliable means of diagnosis, the grating of the hard body revealing its presence. The presence of dead bone from syphilitic necrosis is practically the only other condition which can deceive the experienced examiner. This can still further be eliminated by measuring with the bent probe the limits and the shape of the bared surface, and by its mobility.

If the foreign body is not easily extracted at the first sitting, it is well to give the patient an alkaline nose-wash with a syringe, and direct him to keep the nose clean for a few days by the use of them. Often, at the next visit the discharges and the swelling, as well as the subjective symptoms, will have largely abated. A stiff probe is often useful in prying the body out of its cavity. By bending a right-angled hook on the end of the probe the body may

be dragged out by this simple means. A snare may be used to encircle it, washing the nose out from behind with a post-nasal syringe; a sudden expiratory effort by the patient, after the object has been dislodged, may bring it out. The best forceps for the purpose are those devised for general nasal work by Dr. C. H. Knight, of New York City. I believe there have been various instruments specially devised for extracting a foreign body from the nose. I doubt if they are necessary.

Of late years, the journals devoted to laryngology and rhinology have abounded in descriptions of cases of rhinoliths and other foreign bodies in the nose, and a reference to them will easily disclose the literature of the subject. The case of rhinolith reported here is one of several that have come under my observation, distinguished from others simply by its size and the character of the nucleus.

D. L——, aged thirteen, a schoolboy, applied at the Demilt Dispensary for treatment on April 27, 1888. Three years previously his nose had begun to trouble him, bleeding easily and discharging offensive material, and always from the left side. No history could be obtained of the introduction of any foreign body whatever.

There was marked tenderness to touch on the left side of the nose. An intra-nasal examination showed an object covered with secretions lying in the left inferior meatus. A foul odor was emitted from this side of the nose. The object seemed about the size of a hazel-nut, and gave a grating sound and sensation on the impingement of a probe. It was necessary to break it into several fragments before extraction. It was found to consist of two layers of hard calcareous material, between which sponge-tissue could be plainly distinguished. The calcareous material had infiltrated only the outer portion of the sponge, leaving the central part free from it. The rhinolith had hollowed out for itself a nest between the septum, the inferior turbinated bone, and the floor of the inferior meatus; all nasal symptoms soon subsided after the extraction.

As has been said, many such cases have been reported. The presence of a tooth in the nose is, however, a very rare circumstance. There is a record of one case,[1] where a right upper canine tooth was removed from the left orbit of a child. This was evidently a dentigerous cyst, which must have begun development at a very early stage of embryonic life. Many cases of dentigerous cysts have been reported, and they are not by any means confined to the maxillary regions.

Dr. Wyeth,[2] several years ago, reported to the New York Pathological Society a case in which a displaced tooth was found in the antrum of Highmore. Dr. Griffin [3] found a tooth growing upward in the nose in a case of cleft palate. This produced no symptoms. Dr. Marshall,[4] and Dr. Ingalls,[5] of Chicago, have each reported a case in which the tooth had apparently ulcerated through into the nose, from the upper jaw. It is doubtful how the teeth in the cases reported by Schaeffer,[6] Roy,[7] and Hall [8] became nasal inhabitants. These six cases are all that I have been able to find recorded, after a careful search, though other reports may have been overlooked. In all the cases reported the teeth were the anterior ones, canines or incisors; and the reasons are obvious, since the posterior ones, if inverted, as in Griffin's case, would grow into the antrum, and probably produce no symptoms. I have seen skulls in which a tooth had attained full growth within the alveolar process of the superior maxilla without emerging from the bone at any point. Where ulceration takes place, the progress of a bicuspid or tricuspid upward would be very unlikely to occur, from the shape of its root. If it should occur, as in the case of Wyeth, it would, from its situation, be most likely to be discharged into the antrum.

The first of the cases related here is instructive as illustrating the migration of an object through bony structure, while the second case was evidently originally one of the extra-alveolar development.

CASE I.—Mary V——, aged thirty-five; married; came to the Demilt Dispensary February 21, 1888. Her previous and family histories had no bearing on the case. Four years previously she had all her remaining teeth, nine in number, extracted from the upper jaw. The last one, a lateral incisor or canine, on the left side, she had extracted during nitrous oxide narcosis. The dentist told her he thought he had left a piece behind, but could not detect it on probing. There was a good deal of gingival tenderness afterward, which soon subsided. These facts were elicited from direct questioning after the nature of the trouble became evident, the patient having had no suspicion of the connection between the tooth episode and the nasal symptoms which followed six months later. At that time the left side of her nose began to trouble her, by being "stopped up" at times, and there was a slight discharge. For two years previous to her application for treatment there had occasionally been a good deal of bleeding, and the obstruction, together with the nasal discharge, had steadily increased. For the last six months the nose on the left side had been painful and sensitive. An intra-nasal examination showed marked hypertrophy of the nasal mucous membrane on the left side. It was red and inflamed, and bled easily. A probe detected a rough, hard surface about an inch and a half from the left anterior meatus, on the floor of the nose and close to the septum. Small pieces of calcareous matter or bone could be crumbled off with the probe. The patient was given an alkaline wash with a syringe. Two weeks later she again presented herself, bringing with her a small, flat sequestrum which she had washed out of her nose. After the thorough application of cocaine, by means of a probe and the forceps the single root of a tooth, about three-fourths of an inch long, was extracted from the left nostril. At one end there was some calcareous matter firmly adherent. The nasal symptoms soon subsided.

CASE II.[1]—Mary F——, aged eight, applied for treatment to the Throat Class of the Roosevelt Dispensary on August 17, 1888. Her father died of phthisis. The child was undersized, and had evidently been a sufferer from rachitis. The mother could give little or no previous history of the case, except that the child's nose, as far as she knew, was in a normal condition when she was a year old. Since then the nose had been stopped up so as to prevent nasal breathing. There had been considerable offensive discharge. The bridge of the nose was sunken. The nostrils were flattened and contracted. The superior alveolar process on the left side, corresponding to the situation of the incisor and canine teeth, was absent, leaving a slight cleft. No history of accident could be obtained, the mother stating that she had never noticed the defect before. The left nostril was obstructed by a foreign body, which gave a grating sound on the impingement of a probe. Considerable force was necessary to extract it with the forceps. It was found to be the crown of an incisor tooth. It was notched, as in young children, and larger than in a child a year old. There was considerable calcareous matter around it and in the nostril, but no root was found.

The patient's nasal symptoms had very markedly abated at the next visit, and since then she has not been seen.

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ADMINISTRATION OF COD-LIVER OIL.—It is stated by a French physician that a mixture of equal parts of cod-liver oil and lime-water, makes a fairly palatable and permanent preparation. It may be flavored to suit the taste.

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[1] Cousins, J. B.: British Medical Journal, 1887, p. 873.
[2] Wyeth: New York Medical Journal, November 24, 1883.
[3] Griffin: New York MEDICAL RECORD, March 13, 1886.
[4] Marshall: Journal of American Medical Association, November 6, 1886.
[5] Ingalls: Journal of American Medical Association, February 23, 1884.
[6] Schaeffer: Deutsch Med. Woch., No. 2, 1883.
[7] Roy: London Lancet, November 3, 1883.
[8] Hall: London Lancet, November 17, 1883.

[1] This case came under the observation of my assistant, Dr. F. A. Manning, during my absence. To him I am indebted for the notes of the case.

# Clinical Department.

## TUBERCULOUS PULMONARY ANEURISM—RUPTURE—DEATH IN EARLY STAGE OF THE DISEASE.

By J. W. KIME, M.D.,
FORT DODGE, IA.

On the morning of September 1, 1889, I was called to see Mrs. R. M. W——, aged forty-two, married, mother of four children, two dead, one of diphtheria, the other of consumption. Patient's mother died of asthma (?), probably phthisis, at the age of sixty-one. Other family history fair. Daughter died in 1888, at the age of fourteen, of phthisis.

During daughter's illness, in 1887, Mrs. W——'s temperature constantly ranged from 99½° to 100½° F., but she would not consent to further examination at the time.

On July 13, 1889, her fourth child was born after a normal pregnancy and labor. Health since 1887 to birth of child has been exceptionally good, and average weight six to ten pounds greater than in former years. After labor she felt stronger and better than after other pregnancies, and in three weeks attended her household duties.

On August 31st she had a slight pulmonary hemorrhage, on account of which I saw her on the following day.

Examination shows very slight dulness, and coarse râles at apex of right lung. At two inches to the right of the sternum, in the third and fourth intercostal spaces, there is a well-marked aneurismal bruit. Temperature, 99° F.; pulse, 100. No cough or expectoration at any time; feels quite well, and is at work.

On September 4th a second hemorrhage occurred, about one ounce of blood being expectorated.

On September 7th a hemorrhage took place early in the morning, and again in the afternoon of the same day, when about four ounces of blood were expectorated, and the bronchi were nearly filled, so that patient became almost asphyxiated; rallying, however, she rested quietly till 6 A.M. the following day, when a hemorrhage, proving fatal in a few minutes, occurred. The aneurism had evidently ruptured the previous day, but a plug forming, checked its flow until it became displaced, when fatal hemorrhage ensued. At this time, less than a half ounce of blood was expectorated; the bronchi filled with blood, resulting in death from asphyxia.

The tuberculous process could not have extended to any considerable degree in this case, but was confined to and about the walls of the vessel, which finally gave way.

## ANTIPYRIN IN LABOR.

By J. BARAN, M.D.,
NEW YORK.

This drug, to be given by rectal injection, has been lately recommended for the relief of severe pains of labor. It had been my intention of using it in that way, but found no occasion for it in the cases presenting the last few months.

Administering the drug in one of my last cases, and observing the most striking beneficial results, I thought it proper to bring it to the notice of the profession. Mrs. S——, aged about twenty-two, primipara, had suffered labor pains almost continually from the morning of August 24th to the afternoon of August 29th. She claims to have suffered most acutely, crying for pain, so as to compel the administration of doses of morphia, with only trifling results. The first dilatation of the os was perceptible on the morning of August 28th, and increased very slowly. On the 29th, about four o'clock P.M., the woman suffering agonizing pains, dilatation about one and a half inch in diameter, great rigidity of the cervix, I ordered twenty grains of antipyrin by the mouth, which she took about half an hour later. When seen again, one and a half hour after, I found the second stage of labor fully established. She made powerful expulsive efforts. I was prepared with chloroform, having felt certain there would be necessity for it, but to my astonishment, she assured me that she did not mind the pains at all, that they were very trifling, and very easily borne. She gave birth, half an hour later, to a very large baby. The striking symptoms were immediate great relaxation of the rigid os, and the almost entire absence of suffering during most powerful expulsive efforts after one dose of twenty grains antipyrin, given by the mouth.

## AN IMPROVEMENT IN THE TECHNIQUE OF INGUINAL COLOTOMY.

By CHARLES B. KELSEY, M.D.,
NEW YORK.

In the last few inguinal operations I have performed, I have adopted the following plan: The incision is that of Crips—across a line from the anterior-superior spinous process to the umbilicus. After getting the sigmoid flexure outside the body, a hair-lip pin is passed under it in the following manner: It is entered through the skin on the side of the wound toward the median line, and at the junction of the lower with the middle third of the incision. It perforates first the skin, next the parietal peritoneum, next the mesentery of the gut close to the bowel, and at the junction of the lower and middle thirds of the exposed loop, next the parietal peritoneum on the other side of the incision, and finally, the skin. By this means the gut is so firmly held in position that it cannot be dislodged by any vomiting, and a perfectly satisfactory spur is formed, which will prevent any passing of fecal matter beyond the opening. After this procedure I have never been troubled either by prolapsus of the mucous membrane, or the passage of fæces from the colon into the rectum. With this modification I now adopt a running suture instead of about fourteen interrupted ones, to join the parietal peritoneum to the visceral layer, and to the skin. A rapid operator can easily, in this manner, complete the entire technique of inguinal colotomy in ten minutes, and to this extent reduce the necessary shock.

25 Madison Avenue.

## AN IMPROVED WAY OF USING THE HYPODERMIC METHOD.

Dr. P. G. Udell, of Spencerport, N. Y., writes: "Every physician who employs the hypodermic method is aware of the fact that painful swelling and abscess not infrequently follow its use. This undoubtedly arises from the introduction of septic matter—because the method of antisepsis has not been rigidly applied to this simple surgical proceeding. The sources of infection are numerous. The syringe may be unclean; the needle may be foul; the hypodermic tablet may be composed of materials that undergo fermentation; the water used as a solvent may be impure; the spoon employed to prepare the solution in may furnish the septic matter, etc. I have for some time used a method whereby the above dangers may be positively avoided. In one of the compartments of my syringe-case I carry two small test-tubes, nested; the inner one is converted into a vial by closing the open end with a cork, and contains my hypodermic needles immersed in absolute alcohol. This agent sterilizes any septic matter that may be on the needles, and does away with the necessity of using a wire for maintaining the patency of the same; there is no rusting, and the needle is always aseptic. I frequently cleanse the syringe with a five per cent. carbolic acid solution. Having occasion to use it, I free the needle of alcohol by passing through it water that has been boiled. I now dissolve one of Wyeth's tablets in a few minims of boiled water, and for this purpose carry the second test-tube, in which water may be boiled quickly over any flame that may be convenient, a match answering the purpose very

well. After the solution is sufficiently cooled, it is drawn into the syringe, and is ready for use. The above plan may seem somewhat fussy in detail, but in practice is exceedingly simple, and, if followed as directed, should relieve the physician of those mishaps so annoying to himself and patient. If some instrument-maker will materialize this idea, it will involve but slight increase in size of the pocket-case now in use."

## LATE PREGNANCIES.

DR. J. R. N. SMITH, of Milltown, Me., writes: "In accordance with your request for reports of late pregnancies, I can report one in my early practice. February 14, 1868, Mrs. K——, in this State, then being fifty-two years of age, was delivered of twins. Her youngest child was ten years of age. She had had (I think) eight children before, all living."

# Progress of Medical Science.

THE RESEMBLANCE OF THE MALARIA PARASITES TO THOSE OF FEBRIS RECURRENS.—N. A. Sacharoff states that there exists in the blood of patients suffering from febris recurrens a hæmatozoon which may be best observed immediately after the temperature begins to fall, and which then assumes enormous proportions (twenty and more diameters of a red blood-corpuscle) (*Centralblatt für Bakteriologie und Parasitenkunde*). But specimens of lesser size are also found. The parasite consists of a delicate amœboid body containing a multitude of dark, round, uniform, sharply outlined movable granules. Besides these the protoplasma contains a generally grayish, homogeneous nucleus as large as one or two red blood-corpuscles. The protoplasma sends forth pseudopodia (without granules) which sometimes separate from it and appear as small, delicate pieces of protoplasma without granules. They vary in size and are often swallowed by red blood-corpuscles, in which they gradually grow and finally develop into the above-mentioned large amœboid body. In a description contained in the "Minutes of the Session of the Caucasian Medical Society," in Tiflis, Sacharoff designates the large protoplasma lumps described by Ponfik as his parasite, Hæmatozoon febridis recurrens. He declares that the granules in the protoplasma which Ponfik took for granules of fat are mostly pigment, not fat. From time to time the protoplasma itself sends forth pseudopodia in which no granules are to be found; these pseudopodia fall off and circulate freely in the blood. By separating from the protoplasma, however, the parasites become smaller, until finally only the nucleus and a narrow zone of protoplasma containing granules remains. The nucleus itself is round, delicate, grayish, also reddish, and Sacharoff thinks that it is merely a red blood-corpuscle. The nucleus sends forth pseudopodia, or buds, which separate from it and also circulate freely. Sacharoff watched such separated speusodia and noticed successive changes in them, *i.e.*, he saw spirochætæ-shaped threads form from nucleus-pieces within from eight to ten hours. They did not show any small undulations and were not very thin, but large undulations were distinctly visible. He thinks this is possibly the genesis of spirochætæ. Nor do the lumps separating from the protoplasma remain without further development. They have a motion of their own, attach themselves to red blood-corpuscles, send buds into them, and finally are completely enveloped by them. Here they may assume various shapes and may grow larger and gain granules of pigment in the protoplasma. They distend also the blood-corpuscle containing them, and seem to be able to cause its disappearance. On the other hand, they can emigrate with equal facility from the blood-corpuscle. Then the parasite becomes free and continues to grow, or decomposes, as was shown above. Immediately after the crisis the three first-named forms exist in large numbers; further on, during apyrexia principally or exclusively, the intracellular forms are to be found. This is the main difference between it and the plasmodium malariæ where the intracellular forms are found only during the fever. This report is very important, and it opens new points in the etiology of this disease. If the highly interesting discoveries of Sacharoff should be confirmed, we should have reliable means for the diagnosis of the disease during apyrexia, as the intracellular forms, which can be stained with meythl blue (at least in intermittens), are easily seen. In uncolored specimens they are hard to see. The same peculiarity might then be utilized as a means of differential diagnosis from intermittents, with which febris recurrens is easily confounded.—*The Journal of the American Medical Association.*

STROPHANTHUS AS A LOCAL ANÆSTHETIC.—Many of the drugs which are useful in the treatment of cardiac disease also possess a local anæsthetic action. There is, of course, no connection, as far as can be seen at present, between the two actions. The local anæsthetic action of erythrophleine was investigated last year by many observers; the conclusions arrived at were that, although it possessed a powerful local anæsthetic action, it causes irritation and dilatation of the vessels of the conjunctiva, and in some cases even severe inflammation. It was thus much inferior to cocaine, whose action is accompanied by a constriction of vessels and consequent pallor of the part. Helleborin, the glucoside from the Christmas rose, is also a local anæsthetic and cardiac tonic; one-fortieth of a grain in solution placed on the conjunctiva of a rabbit causes complete anæsthesia in fifteen minutes, and there is at the same time no interference with the movement of the pupil and no dilatation of vessels. The action of this glucoside is therefore like that of the alkaloid cocaine; but it has not yet come into general use. Steinach has lately shown that strophanthus seeds contain a body not identical with strophanthin, which when placed on the conjunctiva produces in twenty-five to thirty minutes complete anæsthesia, lasting from two to twelve hours. There are no great signs of irritation, but if applied to the eye of man it causes a slight feeling of burning, with a passing hyperæmia of the conjunctiva. This condition may pass on to cloudiness of the cornea in animals. The local anæsthetic action of strophanthus is, therefore, chiefly of pharmacological interest, like that of erythrophleine. Cocaine still holds its own when judiciously employed.—*British Medical Journal.*

EXALGINE, THE NEW ANALGESIC.—Exalgine is the name given to a new derivative of the aromatic series, orthomethylacetanilid, discovered by Brigonnet, of the Cochin Hospital, and which has suddenly leaped into extraordinary favor as an analgesic in France (*St. Louis Medical and Surgical Journal.*) The name (*ex*, privative, and *algos*, pain) is significant of its qualities. The formula is $C_9H_{11}NO$ (or $C_6H_4.C_2H_2O.NCH_3$), and the substance is one of the three isomeric (para, meta, and ortho) methyl derivatives of acetanilid. It occurs either in fine acicular or long tablet-like crystals, accordingly as it is obtained by evaporation from solution, or by fusion thereafter. It is sparingly soluble in cold water, more soluble in hot water, and extremely soluble in very dilute alcohol, or in water slightly alcoholated. Physiologically it acts very much like analgesine, having, however, more effect upon the sensory and less upon the thermogenic centres than this substance. Its therapeutic effects are obtained in doses of from four to six grains, administered at once, or from six to twelve grains taken in two doses in the course of twenty-four hours, and are powerfully analgesic, subduing the element of pain in all forms of neuralgia, including visceral. Like all new remedies of this sort, it is at present on its good behavior, as it were, and it is claimed by MM. Dujardin-Beaumetz and G. Bardet that it has in their hands up to the present ex-

hibited no evil sequelæ, being free from the rash, cyanosis, etc., so frequently observed after the ingestion of antipyrin and acetanilid. Exalgine is eliminated by the urine, upon the quantity of which it exercises a marked effect, acting like the antipyretics of the same group, diminishing the quantity of the secretion. In diabetes it also diminishes the quantity of sugar eliminated. Like all of the derivatives of the aromatic series, it is antiseptic and antithermic, as well as analgesic, and possesses the latter quality in a comparatively superlative degree, being more efficient, in doses less than half so great, than antipyrin. The following are the formulæ for its exhibition, as given by M. G. Bardet in *Les Nouveaux Remèdes*.

1. *Antineuralgic potion of Exalgine.*

| | |
|---|---|
| ℞. Exalgine | ʒ j. |
| Kirschwasser | ʒ x. |
| Simple syrup | ℥ j. |
| Distilled water ..... q. s. ad | ℥ v. |

Dissolve the exalgine in the kirsch water and add the syrup and water. The dose is from one to three tablespoonfuls in the course of the day.

2. *Solution of Exalgine.*

| | |
|---|---|
| ℞. Exalgine | ʒ i. |
| Rum | ʒ x. |
| Distilled water ..... q. s. ad | ℥ v. |

Proceed as before. The dose is the same as above.

The Mortality Among Nurses.—The question as to the liability of nurses to infection while in attendance on phthisical patients is an important one, and has not hitherto been studied with the attention it merits. The result of a careful inquiry into the increase in Germany, where the nurses are largely drawn from religious corporations, shows that while the mortality from tuberculosis among the sisters who remain in the convent is from one-seventh to one-sixth of the total mortality, among the nursing sisters the proportion amounted to nearly two-thirds. The death-rate from tuberculosis among the nursing sisters attains its maximum between the thirtieth and fortieth year, and then steadily declines. Compared to the deaths from this cause among the population of the towns in which they live, the mortality from all causes among nurses between the ages of fifteen and twenty is four times as great as outside, between twenty and thirty three times as great, and from thirty to forty twice as great, the explanation being the prevalence of tuberculosis among nurses, the death-rate from this source alone being nine times as great as among the general population. Infectious diseases levy an excessive tribute on nurses up to the age of forty, after which time deaths from this cause become infrequent. It appears, moreover, that nurses enjoy comparative immunity from infection during the first six months' service, but the proportion of disease and death then rises steadily for three years. Of course the figures only represent an average, and do not apply to particular hospitals and institutions, the hygienic conditions of which necessarily vary very considerably. A return drawn up upon reliable data would be of very great advantage from several points of view, and perhaps it may, at some future time, be forthcoming.—*Medical Press and Circular.*

The Cocoanut as a Tæniacide.—Professor Parisi, of the University of Athens, accidentally made the discovery recently that the cocoanut possesses anthelmintic properties. He ate the fruit of the nut after having drank the milk. Two hours later he began to feel somewhat nauseated and had a slight diarrhœa. The following morning he passed at stool a dead tape-worm with its head. He was then in Abyssinia and inquired of the natives whether they made use of the cocoanut for this purpose, but none of them had ever known it to be so used. Upon Dr. Parisi's return to Athens he used the remedy in a number of cases and found it very efficacious. It is preferable to other tæniacides, he says, in that no preparatory treatment is necessary. In all cases the entire worm, including its head, was passed at stool on the morning following the administration of the cocoanut.—*Schmidt's Jahrbücher.*

A New Form of Suture Button.—At a recent meeting of the Ontario Medical Association, Dr. M. A. Powell exhibited a suture button which he had devised. It consists of an oval plate of block tin, about five-eighths by seven-eighths of an inch in size, from which arises a central post three-sixteenths of an inch in height. This post is perforated with a round hole from the under surface of the plate to its own apex and is cross-cut down nearly to the plate. In using the button the suture, of wire, silk, or catgut, is passed through from below, bent into the slot, wound two or more times around the post and then carried across the post through the slot again. The buttons can be readily sterilized by boiling and can be bent to fit irregular surfaces. They can, Dr. Powell says, be instantly fastened, unfastened, tightened or relaxed, and cannot slip or break.

Tobacco and Insanity.—The essay recently read before the San Francisco Medical Society by Dr. Shiels, on tobacco and its effects, was one deserving of exceptional credit, as well for the thoroughness of his investigations as for the general fairness of his conclusions. The doctor addressed a series of questions to the members of a leading New York medical society individually, and upon their answers his deductions are mainly based. The general trend of the decisions of this medical tribunal is that smoking in excess is bad, which few will be found to dispute. The question, "Have you ever seen a case where the brain was permanently affected by the use of tobacco?" elicited a symphonious chorus of noes all along the line, disturbed only by the solitary demurrer of an exasylum superintendent, who claimed five cases of insanity due to the weed. Dr. Shiels believes there must have been some error of diagnosis here, and beyond a doubt the large majority of asylum physicians would, if canvassed, sustain him in his skepticism. It is only in a remote and subsidiary sense that the tobacco habit can be considered a factor in the production of insanity. Its opponents urge that it promotes nervousness. This depends on the individual and the amount indulged in. They also claim that it weakens moral fibre, impairs nutrition, fritters away a man's time, and induces a host of other evils. But it is not upon the brain that the penalties of its immoderate use are visited; the organs more likely to suffer are the heart, stomach, and throat.—*Occidental Medical Times*, July, 1889.

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The Foods of Different Peoples.—Many nations, many dishes! Some articles that are esteemed as delicacies by certain nations are regarded with disgust by others. According to the *Pacific Record* the Turk is seized with violent trembling at the very idea of eating oysters. The American Indians look upon an invasion of grasshoppers as a mark of especial favor from the Great Spirit, and make the best of such a time to lay up a store of provisions for the future. Buckland states that among certain people a mixture of fish, nearly putrefied, and soap-suds is preferred to the best butter. In Canton and other Chinese cities rats are sold at ten cents a dozen, and a hind-quarter of dog is more expensive than mutton or beef. Some of the East Indians eat serpents dried in the oven, but despise the flesh of rabbits. Lizard eggs are a delicacy in the islands of the Pacific, and many people besides the aborigines of the Argentine Republic esteem the flesh of the skunk. Ants are eaten by many peoples, and in Siam a curry of ants' eggs often tickles the palates of the wealthy. The silk-worm is eaten with relish by the Chinese, and a dessert of roast snails is considered a fitting termination of a feast in New Caledonia.

# THE MEDICAL RECORD:

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## A DISCUSSION ON THE QUESTION OF MEDICAL EXPERTS.

THE vexed question of medical expert testimony was brought up at the recent International Congress of Forensic Medicine in Paris, and was discussed and settled in a most interesting way. The gentlemen concerned in the debate included some of the best criminal lawyers and judges in Paris, as well as several physicians eminent in medical jurisprudence.

The subject was opened with a report drawn up by MM. Adolphe Guillot and Demange, both Judges of Instruction.

It must be remembered that in France, in the case of criminal trials calling for medical or toxicological experts, a commission is appointed to whom the scientific investigations are referred. The report of this commission, being presumed to be impartial, necessarily carries great weight; and if it is against the accused, it is almost a fatal blow to his case.

Although, theoretically, the method seems fair and proper, yet, practically, it has acquired unpopularity because it seems to have worked unduly against the accused. The gentlemen above referred to seemed inclined to yield to this popular current of opinion, and recommended, in general terms, that there be a list of experts made out by the State, from nominations made by learned bodies. Then it was advised either that the prosecution and defence each select its own expert, or that the judge appoint two experts, leaving the defence the right to object to one of them. The experts should have the same sum each, and should be paid by the State. In case the experts disagreed the case should be referred to a court of appeal.

The views of the Congress upon these suggestions were shown in the vote upon the nine different recommendations of the reporters.

The first, to the following effect, was carried unanimously: "To guarantee the interests of society and of the accused in all medico-legal investigations, at least two experts shall be employed." The next sentence, "These shall be appointed by the judge," was carried by a small majority, for a large minority voted in favor of each side appointing its own expert. A resolution giving the defendant the right to object to one of the experts was lost. The Congress next voted: "That experts, except in special cases requiring special knowledge, shall be chosen from lists drawn up by the public powers and the scientific bodies selected for that purpose. The system of the plurality of experts imposed the constitution, at the seat of the Faculties of Medicine, of a Supreme Council of Forensic Medicine, which should act as a high and final Court of Appeal." With respect to this latter resolution, it was pointed out that a similar institution had worked very well in Germany. At first there had been many cases referred to this court, but in a short time it was found to act as an excellent check against careless investigation, and now the cases sent up on appeal were not at all numerous. The Congress then carried the following resolutions without any further discussion and without any opposition: "That the Judge of Instruction should be present at the post-mortem, etc., except in special cases, so as to supply to experts such information as may guide their researches; and that the lawyer retained for the defence may also be present, so as to point out to the experts the objections the defence may raise."

It was also advised that in law schools there should be classes in criminal law, and that students should be admitted when possible to post-mortem examinations.

## THE MEDICAL PROFESSION AND THE WORLD'S FAIR.

THERE is, so far as we can learn, as yet no representation of the medical profession upon the World's Fair Committee appointed by the Mayor. All the various trades and business interests have one or more members, and there are plenty of lawyers and journalists. It would seem but just that medicine should also be allowed to take an active interest in an event which promises to be memorable in our civic history.

As the purposes of the Fair have so far been outlined, there will surely be a field for medical and surgical displays of various kinds. There should be historical exhibits to show the progress in the care of the sick, and in their surgical and medical treatment, with displays illustrating the old hospitals and the new, the old surgical instruments and mechanical appliances and the new. There should be illustrations also of the development of the specialties, with displays of all new apparatus and instruments of precision in every field. The development of bacteriology, the improvements in methods of teaching, historical accounts of medical progress, and of the growth of sanitary science, all would have a fitting place.

It is easy to see that a medical and surgical exhibit might be made which would have great intrinsic interest, and would be of immense educational value, not only to the medical profession, but to the laity.

We trust that some steps will be taken soon to see that the medical profession be given its share of the work.

## ELECTRICITY IN GYNECOLOGY.

THE discussion over the value of electricity in pelvic disorders still continues, and the views of gynecologists still remain far from settled. The method, outside of Paris, has chiefly been tried in Great Britain and the United States. In the former country such eminent authorities as Sir Spencer Wells, the Keiths, and Dr. W. S. Playfair are inclined decidedly to favor Apostoli's method, while Mr. Tait and Mr. Bantock are as decidedly against it. In this country no one very prominent as a gynecologist

has, so far as we know, undertaken to champion electrolysis, but a number of men of excellent repute have reported their results, and have as a rule spoken favorably of the method. Useful contributions to the technique have also been made by Martin, Goelet, and other American physicians.

It is evident, from the tone of discussions upon the subject, that the older gynecologists, while not favorably disposed toward Apostoli's method, have not tried it to any great extent.

There seems to be a tendency to use milder currents than were formerly advocated, and a thirty-cell battery is even stated to be amply sufficient for all purposes. It seems, therefore, that a maximum current of one hundred milliampères may often be all that is needed; while we hear little now of the eight hundred and one thousand milliampère currents about which discussion was first raised.

Dr. A. Lapthorn Smith, of Montreal, has recently given an interesting account of his experiences with Apostoli's method (*American Journal of Obstetrics*). Dr. Smith has abandoned punctures, and relies upon the intra-uterine applications, using not very strong currents, apparently not much over one hundred milliampères. He reports cases of endometritis, perimetritis, and fibroids cured or greatly relieved. No exact rules can be given as to the frequency and number of applications, or the strength of the current. The use of the positive pole in hemorrhagic conditions is approved by him, as by all others. It seems, indeed, that a relief of menorrhagia is one of the things which it is agreed electricity can accomplish. Ovarian pains also are often cured. The exact effect of the currents upon fibroids is yet an unsettled point. They certainly often decrease in size under treatment, but whether there is a true electrolytic action is yet hardly demonstrated.

It is noticeable that most of the older men who have worked successfully with the knife are inclined to stick to the tools they have been handling. But evidence is accumulating which makes it apparent that there are many cases in which hysterectomy or ovariotomy ought not to be performed before an electrical treatment has been tried.

## THE BLOOD-VESSELS OF THE LUNGS.

Some time ago we asserted editorially that the blood-vessels of the lungs had practically no vaso-motor nerves. This statement was based chiefly on the fact that the presence of such nerves had never been positively demonstrated in mammals by physiological experiments; and also on the well established fact that the pressure in the pulmonary circulation is very little influenced by nervous stimulation, or by the changes in the heart's activity, such as affect the systemic circulation. It is equally known that the tonus of the pulmonary arteries is very slight, while the vessels are very yielding and distensible. The result is that a complete obstruction of a large pulmonary vessel hardly changes the blood-pressure in the lungs at all, owing to the easy relaxation of the vessels elsewhere.

It is a fact, therefore, still holding good, that the pulmonary blood-vessels are but feebly influenced by vaso-motor nerves.

The actual presence of these has, however, been quite recently demonstrated by Drs. J. R. Bradford and H. Percy Dean (*Journal of Physiology*, vol. x., Nos. 1 and 2). These experiments were made upon dogs, and resulted in showing that vaso-constrictor nerves originate in the medulla, pass down the spinal cord, make their exit from the second to the seventh dorsal segments, and pass to the arteries of the lungs. Stimulation of them causes a slight rise in pulmonary blood-pressure, but their influence is not strong.

The use of a drug like ergot in hemorrhage from the lungs has therefore not much support on physiological grounds.

## THE PURPURAS.

Purpura is a name given to a class of disorders of the most varying origin, and presenting the most divergent types. The result is that systematic writers upon purpura have, as a rule, treated the subject in a tentative and uncertain manner, giving classifications and descriptions which were admitted to be mainly provisional in character. Under the general head of purpura, one finds subdivisions of purpura simplex, purpura rheumatica or peliosis rheumatica, purpura hæmorrhagica. We have, besides, purpura nervosa or myelopathic purpura, purpura urticans, purpura papulosa, purpura scorbutica, or scurvy, and the various cachectic, senile, infectious, and mechanical purpuras.

From all this it may easily be seen how little of definite significance the term purpura possesses. In the attempts at classifying its types we may abandon at once the divisions into idiopathic and symptomatic, for it can safely be said that purpura is always symptomatic of some profound nutritional or mechanical disturbance. We can also exclude from the ordinary purpuras the purpura scorbutus, since that is a well-defined malady of quite well-known origin. The three types of purpura which are most commonly seen in this country are probably the purpura simplex, purpura rheumatica, and hæmorrhagica, and certain cachectic forms occurring in alcoholic and debilitated subjects. The simple purpuras include those mild types observed oftener in the aged, and not associated with much articular or gastro-intestinal disturbance. There is difficulty in really separating the types known as purpura rheumatica and purpura hæmorrhagica. There are intermediate forms which show that the disease has the same general origin. In the purpura hæmorrhagica the mucous membranes are more profoundly involved; in purpura rheumatica, it is the joints. In a recent brief paper by Dr. William A. Edwards, on "Some Forms of Purpura Rheumatica" (*University Medical Magazine*, September, 1889), illustrations are given of three types of purpura rheumatica described by Osler. From the description of cases given it would seem quite justifiable, however, to give up the term purpura rheumatica altogether, and include all the different severe forms under the general title purpura hæmorrhagica. These may then be further qualified by the terms arthritic, or gastro-intestinal, or mixed. The attempts to make of purpura a nervous disorder (Couty, Henoch, Faisans) have not been very successful, although purpura, like urticaria and œdema, may no doubt, at times, be the result of nervous influences; but where there are severe hemorrhages and ecchymoses, a deeper disturbance of nutrition must be invoked.

The belief has been that the cause of the purpura directly was a poison developed through some fault in chylopoëtic metabolism, and this is no doubt generally the case. But efforts have been numerous to place the disease among those of microbic origin. Micrococci have been found by competent observers in the ecchymotic spots, and Guimand (*Paris Médical*, September 8, 1888) has succeeded in making pure cultivations and inoculating rabbits, with the result of producing purpuric eruptions.

## News of the Week.

THE MEDICAL SCHOOLS OF THIS CITY all report unusually large accessions of students.

JEFFERSON MEDICAL COLLEGE.—The Jefferson Medical College and Hospital, Philadelphia, will soon add a new building to the group already located at Tenth and Sansom Streets.

A MATERNITY HOSPITAL.—A Maternity Hospital has just been added to the other clinical facilities of the Medical Department of the University of Pennsylvania.

UNIVERSITY OF MICHIGAN.—The *Boston Medical and Surgical Journal* states that the regents of the University of Michigan, at Ann Arbor, have received an offer of two acres of land for a hospital site from Mrs. Israel Hall.

AN ANTI-VIVISECTION HOSPITAL.—The *Zoöphilist* states that there will shortly be established in London an anti-vivisection hospital.

A DISPENSARY IN PARIS has just been built by the jewels of a lady named Madame Edouard André. The jewels were given to the Philanthropical Society, and were sold for $80,000.

A STATUE has just been erected at Auxerres, of M. Paul Bert, and one at Alfort, of the distinguished veterinarian, the late Professor Bouley.

A DISPENSARY LOVE-FEAST.—About twenty physicians attached to the Northern Dispensary held a social reunion at Clark's a few nights ago.

DEATH OF ALBANY PHYSICIANS BY DROWNING.—Dr. Otto Ritzman, of Albany, was drowned at Carrying-Place Bay, Lake Champlain, August 19, 1889, in consequence of the capsizing of a boat in which he was fishing with Dr. William H. Murray and a guide. Dr. Ritzman was born in Albany in 1857, and was graduated at the Albany Medical College in 1879. This is the fourth Albany physician who has been drowned within a few years: Dr. J. V. Lansing, drowned May 9, 1880; Dr. H. I. Fellows, August 29, 1881; Dr. John S. Delavan, August 7, 1885; Dr. Otto Ritzman, August 19, 1889.

GETTING UP FOR MEDICINES AT NIGHT.—Innumerable mistakes have been made through persons getting up at night to take or administer a dose of medicine. We have heard of few sadder accidents, however, than that recorded of the wife of a well-known physician of Harlem. She had been suffering from insomnia, and got up to take a dose of bromide which she had been accustomed to use. By mistake she swallowed the contents of a bottle of Majendie's solution of morphine, taking sixteen grains of the drug altogether. Despite every effort she died in three hours.

CLARK UNIVERSITY has established the rank of "Docent" as "its highest annual appointment."

THE GERMAN DERMATOLOGICAL SOCIETY.—The next annual meeting of this society will be held at Berlin, in connection with the International Medical Congress. Professor Caspari, of Königsberg, has been appointed President; Professor Neisser, of Breslau, Secretary; and Professor Lipp, of Graz, Treasurer, for the year 1889–90.

THE REPORT OF THE STATE BOARD OF HEALTH on the water-supply of New York City has been made to the Governor, and its details made public. It is a most exhaustive study of the subject, and will be a document of great value in studying the problems of water-supply in cities. The investigation was made under the direction of Professor C. C. Brown and Emil Kuichling, engineers, with the assistance of chemical experts. A full survey of the Croton water-shed, with a detailed description of all the sources of pollution, natural and artificial, is given. It is shown that the Croton water is naturally of pure character, and all the sources of its infection or pollution being now known the problem of keeping the water pure is much simplified.

THE NEW LAW REGARDING PRELIMINARY EXAMINATION OF MEDICAL STUDENTS.—The imperfections in this law were pointed out by us when its provisions were first made public. The chief defect lies in the fact that it requires applicants for matriculation who come from foreign countries or other States to undergo an examination even if they come with certificates or diplomas from institutions of learning. The examination in English is also unfair to students from foreign countries, who may be well educated in their own tongue but know English imperfectly. The Council of the University of the City of New York has appointed a committee to formulate suggestions as to necessary amendments.

SPONTANEOUS COW-POX IN ITALY.—The Animal Vaccination Committee of Milan has recently had a windfall in the form of a supply of lymph derived from a herd of cattle in which cow-pox had spontaneously broken out. On August 3d the Prefect of Sondrio (Northern Italy) announced that natural cow-pox had appeared in a herd in the commune of Cosio, in Valtellina, at a height of 2,000 metres, near the top of the Tagliata Alp. The eruption had shown itself on the udders on June 27th, and of the eighty cows only four had not been attacked.

RUBBER BANDAGES IN INDIGESTION.—Dr. Wettendorfer, while using a Martin's rubber bandage, applied round the waist in a case of chronic eczema, became aware that this treatment seems to be capable of acting beneficially on the digestive organs, curing gastric catarrh and the sense of oppression complained of by dyspeptics, and, as a result of this action, improving in a marked degree the digestive functions. How the bandage acts Dr. Wettendorfer is unable to say, further than that he supposes it is by exerting a mechanical pressure on the organs of digestion, and possibly by causing the bodily heat of that region to be retained. As to the particular classes of cases in which the rubber bandage is suitable only further experience can decide. The bandage should be worn for about an hour after meals, and should be applied over a surface about ten inches in depth.—*Lancet.*

Bogus Diploma Mills Again.—Some months ago a practitioner of Buffalo presented as the evidence of his medical education a diploma issued by the "Trinity University of Burlington, Vt.," an institution of learning of which the very existence was unknown to the physicians of Burlington or to the Secretary of State. A "Dr." Bradbury, of Nashua, N. H., was discovered to be the agent of the university; and from him a hardware dealer of Buffalo succeeded in obtaining a diploma for the sum of sixty dollars, without any medical qualification whatever. It seems that all that is necessary to incorporate such an institution in Vermont is to make application to any town clerk for articles of incorporation, and they are granted forthwith. "Trinity" was found to have been incorporated in the town of Bennington, and a copy of the articles of incorporation is published in the Boston *Herala*. There was also discovered at Rutland a document incorporating the "Vermont Medical College or Second Medical College of the American Health Society for Scientific and Benevolent Purposes." Articles of incorporation of the "University of New Hampshire" were also discovered in the Secretary of State's office at Concord, bearing date of October 10, 1888.—*Boston Medical and Surgical Journal.*

The Prussian Chambers of Physicians.—For the second time since the establishment of the Prussian Chambers of Physicians their representatives have been invited to take part in the deliberations of the highest medical official body in Prussia, viz., the Scientific Deputation for Medical Affairs. At the time when the said Chambers were organized, the State granted them the right to be heard by the official authorities on certain general sanitary questions. Each chamber therefore received the right to send one representative to the Scientific Deputation, and one to the chief medical official body of its province, and these representatives are permitted to take part in the deliberations, but not to vote. They are now regarded as extraordinary members of the Scientific Deputation, and are invited to take part in its deliberations once every year, viz., in November. The themes of discussion this year are to be the reform of the midwife system, and the revision of the official text-book for midwives. These subjects will be introduced by Professors Olshausen, of Berlin, and Bockendahl, of Kiel.—*Lancet.*

How to Inhibit Whooping-cough Paroxysms.—In the *Correspondenzblatt für Schweizer Aerzte*, No. 14, 1889, p. 417, Dr. O. Naegeli, of Ermatingen, describes a new purely mechanical method for treatment of whooping-cough. Given a paroxysm, the author, standing in front of the patient, firmly catches the ascending rami of the lower jaw with his forefingers, and middle fingers placed just in front of the lobes of the ear, places his thumbs on the chin, and, by strong and steady traction and pressure, pushes the jaw forward and downward. The procedure may be very conveniently modified by making traction with the right thumb and forefinger placed on the alveolar process behind and below the middle lower incisors, and the remaining fingers under the chin, while the left hand is fixed on the child's forehead for purposes of counter-traction. If the patient stands with his back to the operator, the latter places his thumbs just above the angle of the lower jaw in front of the ears, the forefingers on the zygomatic arches, the remaining fingers on the chin, and then pushes the jaw forward and downward. Traction may be made still more rapidly by putting the forefingers into the patient's mouth, on the alveolar process behind and below the back molars. No force should, of course, be applied to the child's teeth. As soon as the jaw has been moved in the way indicated, the patient is told to inspire deeply. The procedure is said to cut short the spasm almost instantly, which effect is explained partly by its diminishing the muscular tone in a reflex way, partly by its mechanically lifting up the epiglottis (through raising the larynx with the hyoid bone) and opening the rima glottidis. A systematic inhibition of the paroxysms by means of the manipulations has a markedly favorable influence on the course and issue of the disease. The disease becomes milder, vomiting ceases, expectoration greatly lessens, hemorrhages, as well as complications caused by increase in the arterial tension during the spasmodic attacks, are prevented all through, and the total duration of the affection is shortened, while all bad after-effects are avoided. The same manipulations also give admirable results in spasmodic cough of any origin. The method is very simple, and may be easily learned by nurses, mothers, etc. It is entirely painless, hence little patients subject themselves to it very willingly, and, even after having experienced the striking relief obtained therefrom, try to perform the manipulations on their jaw by their own hands.—*British Medical Journal.*

The Transmission of Gonorrhœa as an Indictable Offence.—The *Deutsch. Med. Zeit.* relates the following: A man was charged with rape by a fifteen-year-old girl, at Stein-am-Anger, but at the trial he was declared not guilty of the charge, as no force was employed. The testimony showed, however, that at the date of intercourse the man was suffering with gonorrhœa, and that afterward the girl also had gonorrhœa, and on this basis the prisoner was charged with inflicting severe bodily injury upon the girl, was found guilty, and sentenced to one month's imprisonment. The two higher courts approved this, but thought the punishment was too light; one court lengthened the term to six months; the other and highest authority thought it was still not enough, and increased the punishment to one year. While such a proceeding is very unusual, it is not unjustifiable, and should the example be followed the prisons would soon need enlargement. For obvious reasons there is no fear that such will be the case.—*Weekly Medical Review.*

Cholera in Asiatic Turkey.—Bagdad and Bussorah have, according to a correspondent of *The Times*, been visited by an epidemic of cholera. The disease was first noticed in obscure inland spots, whence it spread to the port of Bussorah, near the head of the Gulf of Persia.

Hospital for Vienna Students.—The Association for the Care of Sick Students at Vienna has purchased a house in the Laudongasse, at a cost of 55,000 florins, which is to be opened in the course of the coming academic year for the reception of students suffering from illness or injury. It is now being fitted up as a private hospital, with accommodations for forty patients. It is estimated that the cost of maintenance will be 15,000 florins a year

# Society Reports.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*Stated Meeting, May 24, 1889.*

FRANCIS P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

DR. C. L. DANA exhibited some

### SPHYGMOGRAPHIC TRACINGS IN A CASE OF MARKED ABDOMINAL PULSATION.

The patient was a very nervous, delicate young woman, a factory operative, who had suffered from several attacks of a so-called malarial fever which is very common among the operatives along the East Side. The affection is called malarial, but it does not yield to quinine. After one of these attacks had subsided, the patient began to vomit and presented all the symptoms of an acute gastritis, and was treated for that. Before this, however, she had developed a very extraordinary pulsation, with bruit, in the abdominal aorta, which caused her much distress. No tumor could be made out on palpation. The vomiting was checked for a time by means of opium suppositories, but soon returned. After the gastric trouble began to subside, the speaker decided that the case was not one of gastritis but that the vomiting was largely hysterical. He persuaded the patient that she need not vomit again, and the trouble soon ceased.

Dr. Dana took some sphygmographic tracings of the abdominal pulsations and of the radial pulse. The former showed a number of serrated points at the apex, presenting evidence of a very extraordinary degree of arterial relaxation. Three days later, however, when the pulsations had subsided to a great extent, the point was a single blunt one. The pulsations were evidently due to a very marked dilatation of the aorta, and they are observed very commonly, the speaker had been told, in this peculiar form of fever. They had appeared in the same patient during a previous attack a year before the present one. There was an anæmic murmur audible over the heart, which disappeared as the patient got better. Dr. Dana thought the observations of some interest as showing positively a high degree of arterial relaxation; this being less as the pulsation was less. The pulsation was abdominal, not epigastric.

DR. WILLIAM M. POLK said this pulsation was often seen in nervous, hysterical women, even when there was no fever.

DR. BEVERLEY ROBINSON observed that pulsation of the abdominal aorta was not at all infrequent. So common was it, indeed, that it often caused considerable trouble in coming to a diagnosis in cases of suspected abdominal aneurism.

DR. WILLIAM H. DRAPER said that in febrile conditions, especially in children, marked epigastric and abdominal pulsations were frequently observed. He had always regarded them as due to arterial relaxation.

DR. ANDREW H. SMITH reported a case of

### PERIODICAL ENGORGEMENT OF THE LIVER,

occurring in a married woman, twenty-six years of age. There was no history of alcoholic indulgence, of syphilis, or of any special illness except that she had had malarial fever five years ago. She had had six children and no miscarriage. Since the birth of her last child, one year ago, menstruation had been scanty and somewhat painful. Three months before admission to the Presbyterian Hospital she missed her menstrual period, but had at that time chilly sensations followed by hot flashes, and severe pain in the right side. The side became swollen and was very tender. These symptoms persisted for about ten days, and then disappeared, but returned again at the next menstrual period with greater severity. This recurred each month, there being no menstrual flow, but its place being taken by the pain and swelling in the right side. The patient was admitted six days after the beginning of the third of these attacks. She was then suffering from nausea and vomiting, pain in the right hypochondriac region, and anorexia. The area of hepatic dulness was much increased at both its upper and its lower borders, extending from one inch below the nipple to a point about three inches below the free border of the ribs. There was great tenderness over this entire region, most marked, however, at a point about three inches to the right of the umbilicus. The spleen was also enlarged. Examination of the urine gave negative results. An exploratory puncture with a needle in the eighth intercostal space, on the right side, showed some bloody serum, and another puncture drew off some dark blood. Within a week after admission the liver had become reduced to its normal proportions, and the pain and tenderness had disappeared. Vaginal examination showed some retroversion of the uterus, but no marked displacement.

At the next menstrual period these symptoms returned with much greater severity than at any previous time. The temperature rose at times to 104° F., the pulse was almost imperceptible, and there was occasional delirium. The urine was diminished in amount, and contained traces of sugar. This attack was recovered from less perfectly than before, the liver remained slightly enlarged and the patient was quite weak. The following month the symptoms returned with increased severity, the temperature rose to 105° F., the pulse to 160, and the woman died. An examination of the blood, made at the beginning of this attack, showed 2,800,000 red blood-corpuscles to the cubic millimetre, the proportion of white to red cells being about as one to thirty.

To summarize briefly the above report: Five successive menstrual periods were replaced by five attacks of hepatic enlargement with acute inflammatory symptoms. From the first of these attacks the recovery was complete; from the fourth it was only partial; and the fifth attack proved fatal.

At the autopsy the liver was seen to be enlarged and adherent to the surrounding parts. Its surface was slightly roughened and dotted with yellow nodules and small red and black spots; its cut section presented much the same appearance. The spleen was enlarged and contained numbers of cheesy nodules. The left ovary contained a Graafian follicle filled with blood. Dr. Thacher, who made the microscopical examination, reported that the liver and spleen contained spots of congestion and hemorrhage, and also small areas of granular matter without visible structure, which were apparently necrotic. There were also numerous collections of abnormal cells, mostly of large spindle-cells with many giant-cells, which resembled sarcoma.

DR. GEORGE L. PEABODY said that the case looked to him very much like one of leucocythæmia.

THE PRESIDENT remarked that the proportion of white to red blood-corpuscles was not sufficiently altered to establish with certainty a diagnosis of leucocythæmia; it might be regarded rather as a leucocytosis.

DR. WILLIAM H. DRAPER then read the paper of the evening (see p. 393), entitled

### THE RELATION OF DIET TO URIC-ACID FORMATION.

DR. GEORGE L. PEABODY said that he could not help feeling that this question of uric acid and lithæmia was not so much one of chemistry as it was one relating to the vital processes of each individual person. It was within the experience of all that some persons, when confined to an exclusively nitrogenous diet, did not do well, and, on the other hand, a person who was getting along fairly on a moderate diet would suffer from an attack after taking a single glass of dry champagne. No one could suppose that the attack was the result of the mere chemical action of that one glass of wine. He asked Dr. Draper what sort of food he allowed his patients when he wished to avoid the carbohydrates.

Dr. Draper said that he had distinctly stated that it was not often necessary to withhold farinaceous or even saccharine foods entirely, but he believed that patients were relieved by diminishing the amount of this food taken. It is often necessary to remove only certain kinds of carbohydrates, such as fermented liquors, or fruits, or starchy matters. He had not intended to open up such a wide discussion, nor to go into the question of the treatment of gout. The point that he had intended to make was that uric-acid excretion is checked generally by withholding saccharine and amylaceous food. He believed that gout was very closely allied in some mysterious way to diabetes. Even when lithæmia exists alone, it is often as distinctly benefited by an anti-diabetic diet as is diabetes itself. Why this was so he could not tell; it might be due to some idiosyncrasy, to some peculiarity in a man's liver about which we know nothing at the present time. When he found it necessary to restrict the diet very greatly, he allowed spinach, salads, and the like, in addition to meat.

Dr. Peabody said that these green vegetables could not be looked upon as a food, for they were chiefly water, and the small amount that could be taken at a meal contained but very little nutrient material. They might serve to render the animal food more palatable, but that was all, and the diet was still purely an animal one. He did not see why fruits should be excluded, for their acids are converted into carbonates and thus render the urine alkaline.

Dr. Draper replied that the fruit acids were converted into bicarbonates, and these salts did not make the urine alkaline.

Dr. William M. Polk asked whether climate did not have something to do with this condition. He had never seen a negro on the Southern plantations with gout, yet they almost lived on sugar during a part of the year.

Dr. Draper thought that climate certainly did have something to do with it. The colored children got fat from their saccharine diet. Under other conditions the sugar taken might not make fat, but might instead give rise to lithæmia. It was not uncommon to observe people take on fat for a time, then this process would stop for some reason, and gouty symptoms would appear.

Dr. Sexton asked what effect corn-bread had in this condition. In those sections of the country where this entered largely into the diet it was his impression that gout was uncommon.

Dr. A. H. Smith said that his clinical experience was in accord with that of Dr. Draper, for he had often seen patients whose gouty symptoms disappeared upon the withdrawal of the carbohydrates. One patient, a boy, had an immense amount of urates in the urine whenever he took even a little piece of sugar. He believed that the three conditions of lithæmia, polysarcia, and diabetes were closely allied. It seemed to him hardly correct to say that green vegetables do not form tissue, for they certainly do in the lower animals. A horse will do a great deal of work when living on grass alone.

Dr. Peabody said that the herbivorous animals ate an immense amount of grass—they ate pounds and pounds—while a man eats only a few ounces. A man may eat a little two or three times a day, while cows eat all day long.

Dr. Kinnicutt said that horses can do a large amount of work on a comparatively small amount of fodder. They do not eat all day long.

Dr. C. L. Dana thought that Dr. Draper would find it very difficult to counteract the teachings of English physicians, which exerted a powerful influence on American practice. He could not recall a single English writer who did not exclude nitrogenous food from the diet in these cases. He had seen many persons, in the last few years, who were suffering from the nervous symptoms of lithæmia, and had systematically tried a non-nitrogenous diet. He had had some good results and some unsatisfactory ones, but had found usually that a nitrogenous diet would help those who were suffering from dyspeptic symptoms. Persons with the degenerative lesions of advancing life often do badly on a purely nitrogenous diet. He had found that the green vegetables agree very well with most people.

Dr. Polk asked whether no investigations had ever been made in these cases in regard to intestinal digestion and the action of ptomaïnes in producing lithæmic symptoms. Until such had been carefully made, the question could not be satisfactorily settled. In the treatment of this condition he had always paid much attention to the excretions, and this was the result of his observations as to the effect of climate upon the disease. It had always seemed to him that if we could create a Cuba for these patients it would do a great deal for them. Of course, he did not mean to assert that no one living in a tropical country ever had gouty symptoms, but he believed the disease in such cases was hereditary, and that it was seldom if ever acquired in hot climates.

Dr. Beverley Robinson said that he did not look upon diet in gout or lithæmia as the only essential point, and he did not believe that the retention of a certain amount of uric acid was essential to the production of the affection. It was necessary to watch the individual and to ascertain what he could digest and what not. There was a gentleman in this city, suffering from gout, whom he had watched very carefully. Last summer he went to Carlsbad for a course of the waters, and was there told that he was cured and that he would have no more gout. Some time ago, while walking up town, he became suddenly very short of breath. The attack passed away after resting at home, but recurred several times, and then the patient consulted the speaker. There was nothing in the man's urine or elsewhere to point toward gout, but finally, other things having failed to prevent the attacks of dyspnœa, he was put upon colchicum, and almost immediately uric acid appeared in large quantity in his urine. The speaker believed that gouty people did not drink enough water, and that if they would drink more they would suffer less from lithæmic symptoms. But they did usually eat too much, and it did not matter so much what kind of food was cut off as it did how much was taken. The diet should be regulated according to the individual indications, and should not be the same for the plethoric as for the pale, nervous sufferer.

Dr. A. A. Smith reported a case of

### DIFFUSE PHLEGMONOUS GASTRITIS.

The patient was a colored man, thirty-four years of age. He was admitted to Bellevue Hospital on February 26, 1889. The patient had suffered from no previous sickness of any kind, excepting measles and pertussis when quite young. Of late years he had been in excellent health; had never suffered from malarial poisoning, syphilitis, or rheumatism; had never sustained any severe injury; was not a hard drinker, and only occasionally drank more than two glasses of beer daily; had not been drinking at all for some time preceding his present sickness.

The patient on admission was perfectly conscious, but suffering intense pain in the abdomen, with marked tenderness on pressure, especially near the umbilicus. He said that when he arose the preceding day he did not feel so well as usual, though he complained of no definite symptoms beyond loss of appetite and feeling of indisposition to do work. Went to his place of business and fulfilled his duties as a cook. About two o'clock in the afternoon, after eating a light dinner, he was suddenly taken with cramp-like pains in abdomen, pain radiating chiefly from the umbilicus, and accompanied by vomiting of undigested food. Pains and vomiting, both of paroxysmal character, continued up to time of admission, viz., twenty-two hours from the beginning of the attack. He did not have any chill, nor experience any decided feeling of chilliness. When admitted the patient showed signs of great abdominal distress, vomiting at variable intervals a greenish-stained fluid, and utterly unable to retain anything taken into his stomach. The bowels were constipated, though

he had had one small movement the day before, unaccompanied by pain. Decubitus was dorsal, thighs flexed, abdomen only slightly, and not unevenly distended, tympanites not excessive, but most marked over the ascending colon. Cephalalgia was marked, and there was much dizziness. The urine was normal in quantity and quality, though the specific gravity was high.

February 27th.—Temperature still high; vomiting present; pain and tenderness more marked; bowels constipated; abdomen a little more distended and rather rigid; tympanites more marked; pulse more rapid, 120 to 130, feeble, fluttering; respirations, 25 to 35, and rather superficial. The patient lies with eyelids only partially closed, eyeballs upturned, just as when first admitted; easily aroused, and talks coherently.

February 28th.—Condition much worse. The temperature began to fall after 5 A.M., but the pulse became more rapid and feeble; not easily aroused. About 9 A.M. the man went into collapse, dying at 10.45 A.M.

February 29th.—*Autopsy* revealed diffuse, phlegmonous gastritis, almost the entire wall of the stomach being infiltrated with pus-cells, the mucous membrane itself being unaffected; no evidences of any ulcer or even break in its continuity. There was slight recent peritonitis overlying the affected part of stomach. The intestines and viscera were unaffected. No evidences of any form of inflammation elsewhere; endocardium unaffected.

This case presents several points of interest. The man gave a history of an illness beginning on rising, the day before admission to hospital. It will be observed he was admitted, February 26th. He was taken ill the day before, February 25th. He died, February 28th, at 10.45 A.M., about seventy-six hours after the very first symptom manifested itself.

The autopsy revealed a condition which is extremely rare, and one which is seldom diagnosed except in the autopsy-room. It would seem impossible to make an accurate diagnosis unless the patient lives sufficiently long to vomit pus. In this case a diagnosis was made of localized peritonitis, but what it was due to it was impossible to even conjecture. The peritonitis was probably secondary to the changes in the stomach-walls. There was no change in the intestine or liver, as is sometimes found in phlegmonous gastritis. There was no history of a blow over the epigastric region.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Stated Meeting, September 23, 1889.*

ALEXANDER S. HUNTER, M.D., PRESIDENT, IN THE CHAIR.

THE following nominations were made:

For *President*—Dr. A. S. Hunter and Dr. L. Bolton Bangs; *Vice-President*—Dr. J. Leonard Corning; *Secretary*—Dr. C. H. Avery; *Assistant Secretary*—Dr. W. E. Bullard; *Treasurer*—Dr. John S. Warren; *For Censors* (five to be elected)—Drs. Laurence Johnson, Daniel Lewis, G. H. Fox, N. G. McMaster, William M. McLaury, George E. Abbott; *For Delegates to the State Medical Society* (twenty-four to be elected)—Drs. J. O. Tansley, D. H. Goodwillie, William Stevens, A. S. Newcomb, F. B. Carpenter, Samuel Lloyd, P. A. Callan, Ralph Waldo, E. M. Liell, U. G. Hitchcock, W. A. Dayton, Charles A. Powers, Willy Meyer, H. D. Chapin, G. T. Elliot, John Dorning, S. D. Powell, R. T. Morris, Francis Valk, D. D. Jennings, W. C. Jarvis, L. L. Seaman, Malcolm McLean, E. H. Grandin, W. P. Northrup, R. C. M. Page, R. C. Shultz, R. B. Talbot.

DR. H. J. BOLDT read a paper entitled

### SOME ABNORMALITIES OF THE CONTENTS OF THE FEMALE PELVIS,

being some conclusions based on personal experience, with the diagnosis and treatment of various diseases of the female reproductive organs.

When the abnormality consisted of a tumor it had to be determined whether it was intra- or extra-peritoneal, to what part it belonged, whether the uterus, ovaries, tubes, etc.; whether solid, semisolid, or having fluid contents; its nature; whether likely to endanger life or disable the patient; what treatment, if any, was for the best interests of the patient. The author next considered the symptoms of ovarian cysts, which varied according to the size, position, nature, and complications. Bladder and bowel symptoms depended on the extent and density of the adhesions, the severity of inflammation in the tumor, and perimetritis. There was usually constipation and frequent micturition, yet he had seen the reverse in some cases of suppurating ovarian cysts in which the adhesions were exceedingly dense. He attributed the diarrhœa in such cases to a mild sepsis; although the temperature was never high, still, if taken a number of days at regular intervals, an occasional rise to 100° F. or above would be noticed. He had never seen a patient with pus intra-abdominal in whom records of the temperature for several days did not show fever. Speaking of the physical examination, he warned against the danger of rupturing the friable walls of the cyst by rude manipulation. He believed that one cause for suppuration might be found in the treatment which some patients received during months, and which, instead of allaying the localized peritonitis around the cyst, increased it, suppuration eventually taking place. Cases of small suppurating cysts located behind the uterus had invariably given the history of a previous course of painful local treatment. One of the most serious mistakes in diagnosis was to confound a retroflexed gravid uterus with this condition, a mistake which had frequently been made, and which was illustrated by one instance in his own practice.

A case was also related in which operation showed that what had been mistaken by the patient's former doctor for an ovarian cyst with rupture into Douglas' pouch was a pyo-salpinx and intra-peritoneal exudation, the tube having become displaced and the discharge of pus occurring periodically through the uterus. The efficacy of catharsis was most markedly manifest in this case. The second day after removal of the diseased tube and breaking up of adhesions of the other, the temperature rose to 105° F., the pulse to 140. Septicæmia was evident, and he had intended to reopen the abdomen and drain, but, remembering the unfavorable result of previous experience with this method, he decided to try catharsis. Although the patient had had two diarrhœal movements during the day, he gave her fifteen grains of calomel. The bowel began to move within about three hours, and by the following morning the temperature had fallen to 99° F., and the pulse to 110. The patient quite recovered.

An ovarian cyst surrounded by perimetric exudations and bound down firmly by adhesions to the uterus might be mistaken for a subperitoneal or interstitial fibroid of the uterus. A fibro-cystic tumor of the uterus of large size could hardly be diagnosticated. Malignant degeneration of abdominal tumors should be suspected if the growth had been present a long time and was causing emaciation. The adhesions in such cases could be demonstrated prior to opening the abdomen. As to the supposed uselessness of operating in cases of ovarian tumors which had already undergone malignant degeneration, Dr. Boldt coincided with the views of Freund, who had given the history of a number of apparently hopeless cases in which the operation had materially prolonged life and relieved distress. Dr. Boldt had had opportunity to operate in but one such case. The patient, he believed, was yet well.

The author had seen several cases like the following: A patient suffering for months or even years with localized pain in one ovarian region, which had never been markedly relieved by any form of treatment. A mass varying in size from that of a hen's egg to greater than that of one's fist was found on one side of the uterus, with hard, irregular outlines, almost immovable because of firm ad-

hesions, and in close contact with the uterus. Such of his cases had always proven on operation to be composed of firm perimetric exudate with a little pus in the centre, the tube and ovary matted together and inflamed. Most physicians treated them for cellulitis, and they had also been mistaken for malignant disease.

The most frequent error in diagnosis was to confound tubal disease with cellulitis and posterior displacement. But tubal disease of infectious origin invariably had a distinct history, being traceable to either the puerperal state, some uterine treatment undertaken for dysmenorrhœa or sterility, or to gonorrhœa.

Dr. H. T. Hanks opened the discussion. He said that although the paper covered a large field, yet twenty years ago half of the affections mentioned would have been grouped under one name, pelvic cellulitis or pelvic peritonitis. He had been particularly interested in the symptomatology of pelvic diseases, and dwelt on the importance of a thorough study of the subjective symptoms, which, followed by manipulation, would enable one to make the diagnosis in most cases before opening the abdomen. There was no question in his mind but what hæmatocele due to tubal pregnancy, pyo-salpinx due to gonorrhœal infection, and retroversion of the gravid uterus had each its separate symptoms, and it was the duty of the physician to ask questions and establish the exact diagnosis. He mentioned one case of papillomata of the right ovary in which removal had prolonged life, although subsequent operations had to be resorted to for renewed growth.

Dr. E. H. Grandin thought the most serious error in diagnosis was to mistake pregnancy for some other condition. Of recent years the truth had been impressed upon him that this error need never, or very rarely, occur. There were two signs of pregnancy of great value, yet they were often overlooked, the one becoming of value at the eighth week, the other at the third month. The first was Hegar's sign, and was based on the fact that in early pregnancy the uterus enlarged chiefly in the antero-posterior and transverse diameters, assuming the shape of a flattened sphere, and becoming boggy. The other sign was that pointed out by Braxton Hicks, being the rhythmical contraction of the uterus after the third month. It might have to be waited for five or even ten minutes. It had been said that fibrosities would give rise to this symptom, but he had never felt but one which did.

Regarding free catharsis, he was satisfied that it was one of the best means for enabling patients to withstand the septic condition. This was true not only of sepsis in pelvic diseases, but also in the puerperal state.

Dr. Kearney mentioned the fact that Hegar's sign was also present in extra-uterine pregnancy, and spoke of a case of typhlitis, with general peritonitis imminent, in which recovery followed catharsis by Epsom salt.

Dr. W. E. Forest said it was not necessary to abandon opium in puerperal peritonitis while adopting the treatment by catharsis; he gave one grain of extract of opium, ten grains of calomel, and ten grains of quinine in two capsules. Strange to say, catharsis was even more free than when calomel was given without opium.

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Potassium Bromide and Belladonna for Enuresis.—Dr. J. T. Richards recommends very highly a combination of belladonna with bromide of potassium in the treatment of nocturnal incontinence of urine. He reports two cases in the *British Medical Journal*, of June 22, 1889, in which this mixture was effectual after belladonna alone and several other drugs had notably failed.

Pilsner Beer as a Diuretic.—Dr. Gruss, of Vienna, had a patient with heart trouble who was passing very small quantities of water. He told him to drink freely of Pilsner beer, and the quantity of urine passed rose almost at once from thirteen to fifty ounces a day. This remedy will doubtless become very popular.

## MEDICAL SOCIETY OF VIRGINIA.

*Twentieth Annual Session, held in Roanoke, Va., September 3, 4, and 5, 1889.*

(Special Report for The Medical Record.)

(Continued from p. 384.)

### Thursday, September 5th—Third Day.

Dr. R. S. Martin, of Stuart, read a report on

### Advances in Gynecology.

Massage (Brandt's method) is reported to be practised with great success by Dr. Boldt, of New York, in the following conditions: Chronic and subacute para- and perimetritis; all non-acute inflammatory uterine diseases; chronic and subacute öophoritis; catarrhal salpingitis; all uterine displacements, with or without adhesions, unless dilated tubes are present; rectocele and cystocele; uterine hemorrhages not dependent on neoplasms; incontinence of urine dependent on relaxation of the visceral sphincter; hematocele; floating kidney; and prolapsus recti. It is contra-indicated, according to some, in all acute inflammatory processes, dilated tubes, and in all conditions where suppuration is suspected. This treatment is not useful in patients with very fat abdominal walls. The séances vary from three minutes to a quarter of an hour.

Dr. Martin then exhibited an Outerbridge dilator—an ingenious instrument which acts also as a drainage-tube. In sterility dependent on stenosis this instrument is introduced, five or six days before menstruation, into the contracted cervix uteri and allowed to remain. It is also of value in sterility due to flexions. A full description of the instrument and its uses was given in The Medical Record of April 20, 1889. Electricity holds a high place in the treatment of carefully selected cases. Engelmann uses galvanism for inflammatory products which admit of restitution, indurations, deposits due to interstitial inflammation, certain neoplasms. Davis, of Birmingham, Ala., uses faradism for subinvolution of the uterus. It is useful in many cases of retroversion, many so-called pelvic inflammations, in amenorrhœa due to atrophy of the uterus, and in menorrhagia due to relaxation of the muscles. Many think electricity (after Apostoli's method) of value in the treatment of uterine fibroids; but the dangers of sepsis must be guarded against. Some think electrolysis of fibroids uncertain.

For carcinoma uteri Brown uses the curette freely, and applies on a tampon a saturated solution of zinc chloride. Mundé uses a weak solution of sesquichloride of iron. Schramm injects half to one grain in an ounce solution of corrosive sublimate into the diseased mass, two or three times a week, causing cessation of fetor and purulent discharges, and lessening the frequency of hemorrhages. The feeble absorptive power of the degenerated tissue offers immunity from mercurial poisoning. The following is an antiseptic and sedative suppository extensively used in Paris.

℞. Iodoformi ..... gr. xv.
Camphoræ ..... gr. iv.
Ext. belladonnæ ..... gr. j.
Ol. theobromæ ..... q. s.
M. Make one suppository. S.: Put high up in vagina at night.

High amputation of the cervix is advised if the disease has not passed beyond the internal os. If disease has not extended beyond the uterus, hysterectomy is advised. As to uterine fibroids, Coe scrapes away the hypertrophied mucosa. Vaginal hysterectomy has been done successfully. During 1888, abdominal hysterectomy was done 43 times, with only 9 deaths. Uterine anteversions and flexions are but rarely congenital, but results of previous parametritis. Use antisepticized laminaria tents to soften the tissue and render intra-uterine treatment more thorough. Use preliminary course of hot douches and

glycerine tampons, then straighten the uterus bimanually, and hold in place by pessary or intra uterine stem. Dilatation with bougies and the persistent use of hot water will usually effect a cure. Gooddell advocates thorough dilatation with steel-branched dilators when dysmenorrhœa is a prominent symptom. Wylie condemns pessaries, but dilates rapidly under thorough antisepsis. Alexander's operation for shortening the round ligament has grown in favor. Mundé reports 23 cases, with excellent results. Kellogg reports 65 successes out of 69 operations. Schucking has devised and practised successfully vaginal suture of the uterus in 18 cases for radical cure of retroflexed or prolapsed uterus. Hysterorrhaphy finds favor in Germany, where prejudice exists against Alexander's operation. A case of lacerated cervix, operated on by the reporter in May, 1886, was delivered of twins, each weighing eight pounds, in July, 1889, without further laceration. Herrick pares the lips and holds them in apposition, not by sutures, but by an elastic band shaped like the cervix, large enough to cover the whole os and cervix, with a small hole in the band to allow the secretions to pass. Dr. T. Gaillard Thomas does not claim that operations for diseases of women are especially liable to cause insanity, but he mentions six very significant cases in none of which were the kidneys at fault, nor could the sequel be charged to iodoform-poisoning.

Dr. Charles W. Pritchett, of Keeling, then read a

REPORT ON ADVANCE IN OBSTETRICS.

He first spoke of the vomiting of pregnancy. Hewitt analyzes fifty selected cases, and contends that these cases confirm his opinion that the vomiting is in almost all cases associated with, and dependent on, uterine displacement and thickening or induration of the cervix. Gill Wylie attributes it largely to induration of the cervix. Jaggard ascribes it to endometritis gravidarum. In the treatment of this complication Gunther, of Montreux, advises galvanism. Green reports cases cured by chloride of sodium. Collins and William Duncan report cases cured by the application of a ten per cent. solution of cocaine to the vagina and cervix. Rose recommends rectal injection of carbonic-acid gas.

*Anæsthetics.*—Recent writers accord antipyrine a very high place in the first stage of labor, relieving pain and fatigue, while the uterine contractions are not interfered with. Chloroform holds its own in the second stage of labor. Budin advises chloroform only to dull pain, and not to complete anæsthesia, unless to perform an operation more severe than the application of the forceps. Swieicki, of Posen, has used a mixture of nitrous oxide and oxygen in the proportion of four to one. Winckel regards the mixture as harmless, and especially useful in cases of elderly primiparæ.

*Antiseptics.*—The comparative results in hospitals in which antiseptics are used, and those in which they are not, are sufficient to show their great value in reducing the mortality of the lying-in chamber. Corrosive sublimate in weak solutions, and in careful hands, is still the queen of antiseptics and germicides.

*Eclampsia.*—There is yet a considerable want of unanimity as to the cause and treatment of puerperal convulsions. Santos believes that the albuminuria is the result of reflex irritation of the sympathetic and renal nerves, by the enlargement, and later on the contraction and retraction, of the uterus. Lusk says albuminuria is caused by renal insufficiency, and is not the cause of the convulsions. Pajot denies the dependence of eclampsia on albuminuria, but attributes it to a reflex cause.

*Mastitis.*—According to Richardson, this is the result of septic infection, and urges that the child's mouth be kept perfectly clean, and the nipple well washed with antiseptics. Monti advises that the fissures of the nipple be painted with a solution of gutta-percha in chloroform.

*Puerperal Septicæmia.*—It is disputed whether this disease is dependent on one or more organisms. Vidal claims that there are at least two, and that there is no characteristic difference between the germs of puerperal septicæmia and erysipelas. Gusserow denies their identity, and insists that erysipelas cannot cause puerperal septicæmia. Doyen says they are one and the same. Others assert that puerperal septicæmia is of an erysipelatous nature, and the fever typical of erysipelas.

Dr. A. S. Priddy, of Keysville, read the report on

ADVANCE IN DISEASES OF CHILDREN.

He had not found any material advance except in diseases of the alimentary canal. The researches of Holt, Escherich, and others with reference to intestinal bacteria were summarized, with the deduction that three factors must be kept in mind in studying the effects of micro organisms upon the human system: The nature of the organism; the dose, and numbers in which they enter; and the susceptibility of the patient. The two varieties of bacteria which have been isolated and studied in the intestines of young children, are the bacterium lactis ærogenes (found in the upper portion of the small intestine), and the bacterium coli commune. The first decomposes milk-sugar, with the development of lactic or acetic acid, to which the acidity of the intestine is due. After a full review of the subjects involved, the lessons are drawn that the infant must not be overfed, and that the milk (in bottle-fed cases) should be sterilized, and the vessels themselves that hold the milk should also be sterilized. Milk was first sterilized for food in Munich, in 1886. Dr. Caillé, of New York, introduced sterilized milk as an artificial food into this country in 1888, and the results have been favorably received. It remains sweet for six weeks, while boiled milk can be kept only four or five days, even on ice. Stomach-washing for gastro-intestinal disease, first used in Prague in 1880, was satisfactorily introduced by Seibert in New York, in 1888—especially serviceable in dyspeptic disorders attended with regurgitation of food, in cholera infantum, etc. Pass a long, soft, velvet-eyed rubber catheter, attached to a fountain syringe, through the pharynx into the stomach; pour in a cupful of warm water while the child is in the upright position; then tilt the child forward, and the water returns through the catheter. For intestinal irrigation, pass a Nélaton soft rubber catheter (with a hole in the end instead of at the side) some eight or ten inches into the bowel. Through this catheter, attached to a fountain syringe, pass a quart or two of warm water, containing a drachm of sodium salicylate to the pint of water. Though the treatment is not new, it is only during the past two years that it has become popular in this country—chiefly through the reports of Dr. Booker, of Dr. H. P. Wilson's Sanitarium, of Baltimore. It is useful in dysentery, gastro-enteric catarrh, acute and chronic follicular enteritis, etc. Dr. Priddy had used the treatment satisfactorily in a number of cases of gastro-enteric catarrh, dysentery, etc., relieving the nausea, vomiting, tenesmus, etc., and curing his patients.

Dr. George Tucker Harrison, of New York, read a paper entitled

FURTHER CONTRIBUTION TO THE STUDY OF THE ETIOLOGY AND PROPHYLAXIS OF PUERPERAL SEPTIC INFECTION.

The doctrine of auto-infection, which has recently been brought into great prominence, and the industrious researches of the bacteriologists, with the practical deductions from them, have divided obstetricians into two parties diametrically opposed to each other. The one side attaches all importance to the disinfection of the obstetrician (Mermann's subjective infection); the other regards it as a matter of necessity to subject the parturient woman, in a greater or less degree, to antiseptic measures (objective antisepsis). The writer took the ground of those who advocate the paramount importance of subjective antisepsis, in the paper read before this Society in 1885, and has had no reason to change his ground. Of course this position does not exclude the thorough cleansing and disinfection of the external genitals. The views of Kaltenbach were quoted, who insists upon it that an

obstetrician, even with clean hands, can induce infectious forms of disease. He believes that, as the surgeon disinfects his field of operation, so must the obstetrician disinfect the parturient canal, as well as the vicinity. Winter (*Zeitschrift f. Gyn.*, etc.), as the result of bacterial investigation, draws the inference that it is necessary to disinfect the cervix and vagina to avoid auto infection. Steffeck and Dolderlein arrive at the same conclusion. The writer believes that if the demands made by the bacteriologists should be generally acceded to, and it should become a universally accepted rule of practice that the cervix and vagina of every parturient woman should be subjected to thorough and energetic disinfection, an immense amount of injury would be inflicted. These disinfective procedures deprive the vagina of its physiological mucus, and render it more vulnerable. It becomes more liable to the attack of infective germs. Moreover, labor is mechanically retarded when the vagina lacks its normal mucus; nor must it be left out of mind that disinfection of the vagina and cervix is a painful manipulation. Probably the most serious objection which can be urged against the auto-infection doctrine is, that it diminishes the personal responsibility of the obstetrician, and that wholesome dread of infection disappears which everyone should have who examines a parturient woman. The distinction was made between septic infection and putrid intoxication. Cases of so-called auto-infection are really cases of ptomaïne intoxication. The micro-organisms of septic infection are streptococci. According to Bumm, the streptococci of erysipelas and phlegmonous inflammations are identical. Bumm's careful and exact bacteriological studies lend no countenance to the doctrine of auto-infection. Leopold's clinical experience is very striking. Of five hundred and ten women treated without vaginal douches, only nine had slight febrile phenomena. When the cervix and vagina were disinfected, there was a marked rise of morbidity. The doctrine of auto-infection is a retrograde movement, and tends to imperil our present attainments in the prophylaxis of septic infection.

Dr. I. S. Stone, of Lincoln, read a paper on

SOME GYNECOLOGICAL WORK OF THE PAST YEAR.

The paper was based upon experience of cases in the author's sanatorium where none but gynecological cases are received. A brief account was given of several cases of surgical interest, among others four cases of abdominal section. The author favors Emmet's operation for lacerated cervix, but thinks nearly all cases require the curette before resorting to trachelorrhaphy, and very much benefit may be derived from this procedure where the operation is not important. Tait's flap operation has given the most satisfactory results when required for lacerated perineum, and can be performed in a comparatively short time, thus simplifying a most tedious and difficult operation. Electricity came in for a brief notice only, but was not considered of definite value. The author claims exceedingly good results in neurasthenia attendant upon pelvic disease from the use of the Weir-Mitchell method of treatment.

Dr. John W. Scott, of Gordonsville, was the reporter on

ADVANCE IN PRACTICE OF MEDICINE.

After reviewing much of the germ theory as causative of a number of diseases, he concludes that we must look to local sanitary improvements rather than to quarantine alone for the prevention of epidemics—such as Asiatic cholera, yellow fever, etc. Gibier maintains that the bacillus of yellow fever closely resembles that of cholera. During the year ending May 1, 1889, Pasteur treated 1,673 persons bitten presumably by rabid dogs, and lost only three by hydrophobia after the conclusion of the treatment; six died during treatment, and four developed the disease a fortnight after leaving his institution. The microbe of typhoid fever is the bacillus of Eberth and Gaffky. It is of tenacious vitality, and may live for months in decomposing fecal matter, increasing in numbers at a temperature of 62.5° F. Drs. Kalb and Bartlett claim (*British Medical Journal*, January 5, 1889) what is next to an abortive treatment of typhoid fever by mercurial inunction. This treatment must be commenced before the ninth or tenth day. Cold baths are being again advocated. Ehrlich's diagnostic sign of enteric fever—reaction in the urine with one of the aniline derivatives—has been verified by Dr. Taylor (*Lancet*, May 4, 1889). Tuberculosis is a specific infectious disease, the constitutional manifestations of which are secondary to the bacilli, and due to toxic influences evolved during their increase of growth and number. The number of bacilli in the sputa bears no relation to the progress of the disease. The dry sputa is chiefly concerned in the propagation of the disease. The disease can be transmitted only through the medium of Koch's bacillus. It is not in the ordinary sense hereditary. The presence of the bacillus in the sputa is of positive value, but not of negative value in diagnosis. A rational prophylaxis is practicable, and we must still look more to prevention than to the cure of tuberculosis, as no non-injurious antiseptic has yet been brought forth successfully. The infectiousness of scarlet fever suddenly decreases about the sixth day and increases again about the twelfth, reaching its maximum by the sixteenth. The telluric origin of tetanus is gaining advocates. The disease may be produced by inoculation with earth which has recently been in contact with organic matter. The treatment of locomotor ataxia by suspension is approved, but with the injunction to be cautious in watching the effect on the patient during the operation of suspension itself. No case of Pott's paralysis ought to be regarded as desperate until after failure of suspension. Weil's disease is due to septic poisoning, and hence it is proposed to call it septic or infectious icterus. Dr. Scott's observations on the treatment of whooping-cough by inhalations of the oil of eucalyptus is beneficial in shortening the length and in ameliorating the severity of the paroxysms, and in prolonging the intervals between the spells. His method was to pour from one to two drachms of the oil on sponges and suspend several of them from convenient places in the room; at night, from the head of the bed so as to let the oil be constantly inhaled. A number of abuses of hygienic rules were mentioned, in the hope of getting practitioners to properly instruct their patients with regard to them, such as the common errors in our schools, the aversion of wives to becoming mothers, etc.

Dr. A. Jacobi, of New York, presented a communication on

ENTERALGIA AND CHRONIC PERITONITIS.

Enteralgia is always an irritation of a branch or branches of the sympathetic nerve. Its cause lies in the nerve or the intestinal tissues or its contents. Hysteria, hypochondria, malaria, gout, poisons, etc., may start the disease; or the pain may be reflected from spinal, liver, genito-urinary or skin disease—sudden chilling of the skin being a frequent cause. The pathological changes are congestion or inflammation, with their results. Acid food, certain drastics, hard scybalæ, fermenting foods, etc., are the common causes of enteralgia. The attacks are indefinite in length or suddenness. The temperature is rarely raised; the pulse is irregular; the skin becomes cold and clammy; sometimes dysuria, nausea, vomiting, constipation or diarrhœa occur. The tumidity of the abdomen changes its place under palpation, etc. Priapism and seminal discharges may occur with spastic rise of the testicles.

A common cause of enteralgia, often overlooked, is chronic peritonitis of secondary nature. New abdominal formations, peritoneal adhesions, swelled pelvic glands, etc., point to previous peritonitis. Floating kidney may start peritonitis, and thus become fixed in its dislocated position. Vertebral disease, psoas and iliac abscesses, hip-joint abscess, etc., may cause chronic peritonitis—oftentimes not recognized except post-mortem. Catarrhal "female diseases" are frequent causes, as are violent

cohabitation, the puerperal state, etc. Biliary calculi, perinephritis, splenic and pancreatic diseases, infantile intussusception, a preceding attack of peritonitis, etc., are also causes. Simple intestinal catarrh grows speedily into enteritis. Peritonitis is likewise communicated to the muscular and mucous tissues—and thus extends the œdematous infiltration, paralysis, and hence constipation. Thus also diarrhœa, intestinal ulceration without perforation, etc., may cause local peritonitis. Diagnosis of chronic peritonitis is not always easy. Respiration need not be accelerated in pelvic peritonitis, perimetritis, and pericystitis. Vomiting is sometimes wanting; diarrhœa is not infrequent, but constipation is the rule; the abdomen may be tumid, and the horizontal position is often uncomfortable. The seat of inflammation or adhesion may sometimes be told by placing the patient on his back; extend and then flex the extremities, and then use pressure—soft, hard, sudden, and gradual. Often, however, it is best to make deep pressure; if no pain, relieve the pressure suddenly when localized pain may be felt. Change of position of the bowels may arouse pain; sharp pain after full meal may point to adhesions of the stomach; if pain occur three or four hours after eating, look for chronic colitis; if after quickened inspiration, then perihepatitis, etc. Variability of pain depends on degree of irritation or congestion. Extensive pelvic peritonitis may not give pain except when waked up by defecation, cohabitation, micturition, etc. In pericystitis, when urine is about half voided, and the bladder begins to contract more efficiently, a localized pain above the pubes, increased by pressure, develops, much resembling the spasmodic pain of vesical catarrh. Flatulence, etc., develops enteralgia in chronic peritonitis; stenosis of the bowel, twisting, adhesions, etc., result, thus interfering with the intestinal functions. In short, the sequelæ of chronic peritonitis are very various. The indications of treatment of the enteralgia of chronic peritonitis are determined by its results and symptoms, such as intestinal sluggishness, adhesions, etc. Subacute and acute peritonitis require absolute rest, support for the knees, ice or hot applications according to circumstances, opiates, etc. Some are now recommending large doses of magnesia sulphate and turpentine enemata; but a treatment under which an occasional patient may escape death must not supersede one which has proven to be successful in most cases, and beneficial in all. Localized attacks, mainly in the right hypochondrium, demand local applications; a few leeches occasionally and morphia subcutaneously may be required. Old adhesions, etc., are not amenable to medicines. Great physical exertion, pressure on abdomen, etc., must be avoided. Keep bowels regular. Wear a snug bandage over the whole abdomen for years after the last complaint of pain. Generally this bandage, held down by a perineal band, gives immediate relief. Without the immobility given by it to the sore intestine he does not expect a case of chronic peritonitis to do well.

Dr. W. D. DeGarmo, of New York, read a paper on the

SURGICAL TREATMENT OF HERNIA.

Dr. John Ridlon, of New York, read a paper on

SOME PRACTICAL POINTS IN THE TREATMENT OF HIP DISEASE, WITH SPECIAL REFERENCE TO THE USE OF THOMAS' SPLINT.

The paper was addressed to the general practitioner, and the means at his hands for the treatment of hip disease were chiefly considered. The difficulties in the way of obtaining and using the various traction splints were shown. Plaster of Paris was considered as a convenient and comfortable form of dressing, but one not easy to apply properly. Traction by weight and pulley in bed was not approved of, while Howard Marsh's method was approved of for those cases where traction is indicated, and rest in bed not contra-indicated. To one who was satisfied to treat tubercular joint disease in any part of its course without traction, or who is so circumstanced, as the general practitioner is, that he must treat all walking cases without traction, and to one who believes that immobilization, and not traction, is chiefly indicated in the management of these cases, Thomas' splint would prove of great service. It can be made by a blacksmith or harness-maker at a cost of not more than $2.50. Splints, pattens, and wrenches were shown and their construction and application described. The writer believed that Thomas' splint should be applied at once, and that we should not wait to reduce the deformity by other means, and that the patient should be kept in the horizontal position, but not necessarily in bed, until the muscular spasm had in a great measure subsided.

Dr. Joseph A. White, of Richmond, read the report on

ADVANCES IN OPHTHALMOLOGY, RHINOLOGY, OTOLOGY, AND LARYNGOLOGY,

which was rather a critical review of the more important literature of the past year interwoven with some of the practical results of his own large experience in this special line of practice, particularly in reference to operations on the ocular muscles in the line suggested by Landolt, Abadie, and Stevens, of New York. His results with modified tenotomies and resections of the recti muscles in cases of headache, eyeache, neuralgia, confirm those of Stevens, while he is not prepared to speak of their value in cases of epilepsy, mental defects, etc. This method of operating he has also substituted in his practice for the old-time squint operation and he gets more accurate results than formerly. He also emphasized the dependency of ear diseases upon nasal troubles, and the fact that nasal catarrh was to be cured only by surgical procedures.

Dr. J. Herbert Claiborne, Jr., of New York, read a paper entitled

PRIMARY IRITIS; ITS DIAGNOSIS AND TREATMENT.

It opened with an anatomical description of the iris and contiguous parts. It was important to remember that in a condition of health the edge of the pupil rested on the anterior surface of the lids in moderate dilatation. The diagnosis was to be made by the signs rather than the symptoms of the disease. Pericorneal redness, steamy cornea, clouded aqueous, discolored iris, small pupil, irregular and puckered edges of pupil, tenderness on pressure in the ciliary region, were the symptoms indicating a high condition of ciliary congestion, but not necessarily of cyclitis. Treatment was comprised under the great "therapeutic trilogy," local depletion, irritation of pupil, systematic treatment. Local depletion was best obtained by that leech that takes deepest hold, sucks longest, and draws most blood. Bleeding should be encouraged by hot applications to the bites.

The position for the leeches was in the temporal fossa in a horizontal line with the outer canthus of the eye, to drain the temporo-malar branches of the lachrymal arteries. Dr. Claiborne preferred to combine cocaine with mydriatics on account of the greater mydriatic power of such combination and the analgesic effect of cocaine. He preferred Duboisine (ten per cent.) combined with cocaine (six per cent.). In regard to systemic medication, use blue ointment, salicylate of soda, and iodide of potassium, the iodide combined with bichloride or biniodide of mercury, antipyrine, and Russian or Turkish baths, and quinine for its general tonic effect. He wished to lay much stress on the value of salicylate of soda, particularly in rheumatic iritis; it was also of great value in the specific form, as assisting the action of the other agents. There is no need of opium or morphine in iritis; if the pupil could be dilated pain would cease; if it could not, antipyrine was a good substitute for morphine. Too much stress could not be laid on the importance of the early treatment of iritis with regard to preserving the sight. The responsibility rests with him who sees the case first.

Dr. Lewis G. Pedigo, of Roanoke, read a report on

ADVANCES IN NEUROLOGY AND PSYCHOLOGY.

He regarded the development of the suspension treatment of locomotor ataxia as the most important step of progress in neurology in the past twelve months and devoted considerable time to the consideration of this subject. Other items of progress in neurology were reviewed; the problems of asylum management and general care and treatment of the insane received due attention. A brief allusion was made to Stephen Smith's project of a law for commitment and detention of the insane. The present status of various questions of medical jurisprudence was presented at length.

The latter portion of the paper was devoted to hypnotism and allied phenomena. This portion of the paper was illustrated by actual experiments before the society on a subject who, the doctor claims, is one of the very best and, in some respects, most remarkable hypnotic subjects in the world. He succeeded by his own modification of the Bernheim and Charcot methods in throwing this subject into the hypnotic trance in about one-third the time required by Bernheim to hypnotize his very best subjects. La petite hypnose and la grand hypnose (in its three stages), as delineated by Charcot in Salpêtrière, were demonstrated in clear and rapid succession.

Dr. E. M. Magruder, of Charlottesville, reported two cases of

NEURECTOMY FOR FACIAL NEURALGIA, WITH RECOVERY.

His first case was a gentleman, seventy-one years of age, who had had persistent neuralgia for fourteen years, that no medicine cured, although he had consulted eminent specialists. Seven drops of fluid extract of gelsemium, every three hours, gave greater relief than any other medicine except morphia. But all medicines failing, the patient was chloroformed, and, with strict antisepsis, an incision was begun just below the lower orbital margin, over the infra-orbital foramen, straight downward, parallel with the nose, toward the lip, and ended on a level with the lower border of the ala nasi—about an inch incision. The fascia and fibres of the levator labii superioris were torn through with the handle of the scalpel, and the nerve exposed at its exit, where it divided into two branches. Each branch—the palpebral, the nasal, and the labial—spreading into a fan-shape as it neared its destination, was dissected out as far as it could be followed without mutilating the face too much. The main trunk was then seized with forceps at the foramen, drawn out as far as possible without breaking it, and cut off close to the bone, after which the various branches were divided at their farthest point of dissection. The wound was closed with fine silk sutures. There was at first considerable paralysis of the side of the face, and loss of sensation, but these disappeared, except from the right half of the upper lip, which is still without motion or sensation. There has been no recurrence of the neuralgia. The patient feels like a new man.

Case II. was a lady, fifty-eight years of age, who has had facial neuralgia for ten years. At first it was confined to the left lower jaw, never passing the middle line of the chin; but afterward extended to the left external ear, temple, and side of head above and behind the ear (auriculo-temporal), to the left side of the tongue (gustatory), and then to the left side of the floor of the mouth (mylo-hyoid). The diagnosis was neuralgia of the inferior dental nerve, with reflex and sympathetic phenomena exhibited by the auriculo-temporal, gustatory, and mylo-hyoid nerves. As to treatment, teeth had been extracted, analgesics had been used, etc., and, finally, total neurectomy of the inferior dental nerve—including its branches—was done, with cure. In the operation, avoid injury of the facial artery and Steno's duct. Entering the scalpel just in front of the posterior border of the ramus, just below the parotid duct and lobe of the ear, a curvilinear incision was made downward, half an inch in front of the inferior maxillary angle, then forward a little above the lower border of the ramus, and upward just behind, and avoiding the facial artery, stopping short of the line of Steno's duct above. The flap thus shaped was raised by shaving the masseter muscle from its attachment to the outer surface of the ramus, and the bone laid bare. With a half-inch trephine cut out a button of bone from the centre of the outer plate of the ramus, exposing the nerve in its bony canal. Seizing the proximal end of the nerve with forceps, strong traction was made from the direction of its origin; it was then cut off with scissors, close to the bone, as it entered the circular cavity made by the trephine. Then, the wound being stuffed with moist antiseptic cotton, and the hemorrhage stopped with pressure, a second incision was made, an inch long, horizontal in direction, over the mental foramen (below the root of the second lower bicuspid tooth), beneath the depressor anguli oris, disclosing the mental nerve and its branches beneath the last-named muscle. The nerve was grasped with forceps and pulled upon, but broke off at its point of exit. The branches were then dissected out and cut off as far as possible from the foramen. Then returning to the first wound over the ramus, and chiselling away the wall of the dental canal, or one-eighth inch from the circular cavity in the ramus, so as to expose this end of the nerve which had been divided by the distal side of the trephine, it was drawn out of the dental canal with forceps, in its entire length from the ramus to the foramen. In all, three and three-eighths inches of nerve-structure were removed. The wounds were closed, and the patient was perfectly relieved, without any return of neuralgia since. The paralysis of the left side of the face disappeared in about two weeks.

The lesson learned is, in all operations for facial neuralgia remove as much of the troublesome nerve and its branches as the anatomical formation of the parts will possibly allow without rendering the procedure too grave.

Dr. C. R. Cullen, of Waldo, Fla., read a paper on

RAILROAD INJURIES.

He reported eight parties injured by railroad accidents—several had ribs fractured; two had hands crushed; one besides broken ribs, had cystitis, fractured arm, and abscesses; one had fractured femur, which was finally removed, and the foot on the other leg badly crushed. Several bones and pieces of bone were successfully removed, with full restoration to health. Dr. Cullen urged that doctors not engaged in the service of railroads insist upon the same compensation, when they are called upon for such service, that is received by doctors engaged in railroad service.

Mr. Hugh Blair, of Richmond, read, by invitation, a paper on

DIAGNOSIS BY MEANS OF URINARY ANALYSIS.

Harley says the state of the urine is a key to the condition of the body. While some diseases may not affect the urine, morbid urine indicates disease. Renal inadequacy (notable absence of urea and other solids), due to want of the necessary nerve-influence, is shown by the low specific gravity of the urine, other causes being excluded. In overworked nervous systems, excess of alkaline phosphates in the urine occurs. Probably the nervous system is fed with phosphorus by licithin. The best way of supplying phosphorus to licithin is to give hypophosphites. If indigestion and improper metabolism occurs, deleterious matters accumulate in the blood; if of nitrogenous character, the kidneys excrete them if they are eble. Destructive metamorphosis of albuminoids in the liver forms urea. Uric-acid crystals—easily recognized by the microscope—appear in the urine in some functional hepatic disorders and lesions, causing gout, chronic nephritis, renal calculi, etc. If the crystals do not appear, excess of urates, acid urine, with high specific gravity, are present. Lithæmia (uric acid in the blood) is a chronic condition of the overworked and over-anxious, is

not so serious as gout, but is ever active in causing obscure and distressing symptoms. It points to chronic functional disturbance of the portal circulation, and is recognized by the high specific gravity of the urine, its acidity, excess of lithates and phosphates, and, often, oxalate of lime crystals, and especially pigments in the urine. It gives a peculiar change in color in the urine during Pavy's copper test for sugar. Diabetes indicates grave systemic disease; but it should be differentiated from hydruria and polyuria. Icteric urine stains white cloth yellow; but its diagnostic value is not of practical use. In short, the value of urinalysis extends to every disease characterized by pathological urine, as the Bright's diseases, pyelitis, cystitis, etc. Numerous urinalyses made by him for physicians had enabled practitioners to determine their diagnosis, and oftentimes save the lives of patients.

Dr. A. F. Kerr, of Williamsville, reported a case of

EXTERNAL GLANDERS, OR FARCY, IN MAN.

The rarity of the disease, especially in mountainous regions, justified, he thought, a note or two about the case. Glanders is an infectious disease, principally of domesticated equine animals, and communicated to other animals and to man by inoculation of the glanders bacillus. It originates in solipeds, although it has been known to originate in cloven-footed animals. Having originated, infection occurs only for a short distance through the atmosphere, or the disease may be communicated through the ingestion of infected matter, or through the seminal secretions to the female in coitus, etc. In man, the chief source of infection is the horse—being rarely communicated from man to man. The point of attack is usually an abrasion upon the skin or mucous membrane. The incubative period is from one to four days in inoculated cases. The wound becomes tense, swollen, painful, with a dark or yellowish erysipelatous redness, and the edges become puffy and everted. A sanious matter issues, and the surrounding lymphatics become swollen and red, and the glands become enlarged and tender. Constitutional disorder sets in in a few days—languor, extreme weakness, and prostration, with aching in the limbs and head, rigors alternating with fever, or a continued fever after the first violent chill; sometimes there is nausea and vomiting, and even diarrhœa. When not due to external inoculation the febrile symptoms appear first, and then the other conditions which have been noted first in the description of cases due to external inoculation. The phlegmonous swellings along the lymphatics become abscesses, and discharge small quantities of a thick slimy pus. The resulting sores become ulcerous, with grayish base. Temperature rises perhaps to 104° F.

His case was a young healthy man, in 1886. He contracted glanders from treating a mare supposed to have "greased heel," or "scratches." He first noticed a painful swelling on the point of the second finger of the left hand, which had been slightly cut with a penknife. The swelling was yellowish, edges of wound everted and puffy, and discharged a thin, sanious material; the surrounding lymphatics became enlarged, and all the fulness of the history of glanders in man was complete. Treatment began with a brisk purge, followed by quinia and muriated tincture of iron, and an exclusive milk diet. The swellings on the forearm were freely laid open and cauterized with nitrate of silver, all diseased tissues removed, and the resulting sores packed with iodoform, over which was laid medicated jute. Subsequent washings were made with carbolized water. Recovery was prompt.

Dr. W. W. Parker, of Richmond, presented a paper on

A FEW ORIGINAL OBSERVATIONS ON BLOOD GRAVITATION IN HEALTH AND DISEASE,

of which the following were the conclusions:

1st. The first wound ever inflicted upon the human body was probably upon one of the extremities, and the relief following the elevation of the wounded member was the first illustration of blood gravitation in disease.

2d. A case reported of the wonderful curative power of elevation—the leg 80°—of a boy struck in the tibia by a base-ball.

3d. A singular case of death from the application of a mustard-plaster to the ankle, being an exception to the rule, yet establishing it.

4th. The gravitation of blood in the stomach made useful in preventing emesis in certain cases.

5th. A remarkable case of acute inflammation of the neck of the bladder, in a woman, with retention of urine, at once removed by the forcible elevation of the hips of the patient. Other cases reported.

6th. The avoidance of varicose veins of the legs in shopkeeping men and women by sleeping on a double inclined plane, and the importance of those predisposed to apoplexy sleeping with the head well elevated.

7th. The effect of the position of the body in phthisis, in liver, and other congestions. A case of an infant, with suffocating catarrh, at once relieved by the elevation of the head and chest.

8th. A beautiful illustration, found especially in the herbivorous or grazing animal, of nature's plan of counteracting the hurtful gravitation of blood to the brain.

9th. A lesson suggested from these considerations and facts to those unwise doctors and deluded people who think "a man cannot die till his time comes." That mechanical law in the body is as inflexible as the same law in the machine, and loss and ultimate destruction will come as certainly, from the neglect of these laws, to the one as to the other.

Dr. A. C. Palmer, of Norfolk, presented a paper on

OUTLINE TESTS FOR MUSCULAR INSUFFICIENCIES OF THE EYE.

Leaving out of consideration cases of strabismus and the like, he devoted attention to the more minute forms of insufficiencies known by the term heterophoria. In strabismus one eye soon accustoms itself to see the object looked at, while the other is idle, as to effort at vision. But in heterophoria there is acute normal vision, in which every detail of an object is seen; but the external rectus of one or both eyes is too weak to prevent the internus muscle from turning the ball in, just past the normal axis. Eyes such as these have to swing a very little way to make the image seen with one eye a little to one side of that seen with the other; and the confusion resulting is all the worse from the very fact that each eye sees so clearly that neither image can be ignored. The patient has before him two similar images, which are continually receding from, and blending with, one another. But he will involuntarily overcome this blurring of outlines, if he can possibly spur up the externus muscle to pull the eye out to its proper place. Just these insufficiencies, or strains, produce more mischief than true strabismus.

Heterophoria is subdivided into esophoria (eyes tend to turn in too far), exophoria (tend to turn out too far), and hyperphoria (where one eye swings on a higher level than its fellow). Prisms deflect an image toward their apices or their edges. The relative strength of each of the four recti muscles, in their normal condition, is presumed to be ascertained. Thus the externi should diverge the eyes sufficiently to make the image single when prisms of 8° are placed before them, with their bases in. The interni, after a little trying, should converge sufficiently to single images when prisms of 50° are placed before them, bases out. If a patient with neurasthenia presents, place him in an erect position, and direct his vision on a lighted candle twenty feet off. Then cover each eye alternately, and notice whether the light moves up or down, or to the right or left. This parallax test, introduced by Dr. Alexander Duane, of New York, often establishes at once the form of insufficiency. But should it not do so, then use the prism tests, which the paper described in de-

tail. Dr. Palmer then explained the application of glasses to overcome each of the insufficiencies.

Dr. Henry V. Gray, of Roanoke, read a paper on

THE THERAPEUTIC POSITION IN SEXUAL CONGRESS.

Many husbands will not keep their promise of continence even when the wound is inflamed. What is to be done? Advise the husband that if he will have intercourse, to do so with the wife in the position for introducing Sims' speculum. For in this position the womb rises up beyond the reach of the largest penile organ. The perineum gradually relaxes in the effort, and the womb does not receive a bruise or a jar. He has in several instances advised this mode of sexual intercourse, greatly to the relief of his patients with womb and ovarian diseases.

Dr. D. Mayer, of Charleston, W. Va., delegate from the Medical Society of West Virginia, read a paper on the

USE AND ABUSE OF OBSTETRIC FORCEPS.

He showed that when the forceps are properly used they are not damaging; that harm may come when used too late; that the time has arrived in obstetric advances when the practitioner will be compelled to use them because intelligent women demand their application to shorten their period of suffering.

Dr. L. B. Anderson, of Norfolk, Va., presented the

REPORT ON HYGIENE AND PUBLIC HEALTH,

in which he classed etiological factors into 1, those which are known; 2, those which are purely hypothetical and chimerical, such as malaria, vegetable parasites, bacteria, etc.; 3, those that are partly demonstrable and partly hypothetical, namely, ptomaïnes and leucomaïnes—from which sanitary laws are deduced.

Dr. J. G. Wiltshire, of Baltimore, Md., read a paper on

ANÆSTHETICS,

but retained his manuscript for some revisions, etc., before presenting it to the Committee on Publications.

After the session had been adjourned the members and guests met to enjoy a magnificent banquet, given by the profession and citizens of Roanoke.

## AMERICAN PÆDIATRIC SOCIETY.[1]

*First Annual Meeting, held at the Army Museum Building, Washington, D. C., September 20 and 21, 1889.*

First Day, Friday, September 20th—Morning Session.

The Society was called to order by the President, Dr. A. Jacobi, of New York.

ADDRESS BY THE PRESIDENT.

He briefly outlined the history of pædiatrics, its relations to other branches of scientific medicine, and its claims to be considered a speciality, viewing it in the light of internal medicine, surgery, neurology, physiology, psychology, embryology, and public hygiene. The following extract from this address will enable the reader to gain some idea of its scope and great value. "The most vital questions of public hygiene are most intimately connected with pædiatrics. It is mainly two subjects that attract the attention of those who take an interest in children. I allude to the school and to constitutional diseases. My remarks to-day can be but fragmentary, but still I must not, both in the interest of our science and human society, omit to emphasize the fact that it still appears that our schools were establishments organized to produce near-sightedness, scoliosis, anæmia, and both physical and intellectual exhaustion. Contrary to the treatment a colt receives at the hands of its owner, human society or the State permits or directs that the powers of a child should be rendered unfit for its future functions, physical, mental, and moral, for these three are indelibly interwoven. It requires physical and mental education to fertilize the soil for the evolution of morals. Thus the physician, and especially he who makes pædiatrics his special study, is a pedagogue by profession. The question of school-house building and school-room furniture, the structure of bench and table, the paper and the type in the books, the number of school hours for the average child and the individual pupil, the number and length of recesses, the hours and duration of intervening meals, the alternation of mental and physical training, the age at which the average and the individual child should be first sent, have been too long decided by school boards consisting of coal merchants, carpenters, cheap printers, and under-taught and over-aged school mistresses; not, however, of physicians. The health and vigor of the American child in early years seem, according to Bowditch, superior to those of the European; why is the youth and maiden, particularly the latter, so inferior? Why is it that anæmia and neuroses eat the marrow of the land, and undermine the future of the country by degenerating both the workers and the thinkers of the community, and the future mothers? If there is a country in the world with a great destiny and a grave responsibility, it is ours. Its self-assumed destiny is to raise humanitarian and social development to a higher plane by amalgamating, humanizing, and civilizing the scum of all the inferior races and nationalities which are congregating under the folds of our flag. Unless the education and the care of the young is carried on according to the principles of a sound and scientific physical and mental hygiene, neither the aim of our political institutions will ever be reached, nor the United States fulfil its true manifest destiny. That destiny is not so much the political one of excluding Europeans from our continent, North or South—for indeed the participation of European civilization in the gradual work of removing barbarism ought to be very welcome—but of raising the standard of physical and mental health to possible perfection, and thereby contributing to the welfare and happiness of the people."

Dr. Francis Huber, of New York, reported

TWO CASES OF DOUBLE EMPYEMA.

The writer gave the details and the results of his cases, and presented a very complete list of all the cases of double empyema which he could find in the literature of the subject.

Dr. Charles Warrington Earle, of Chicago, read a paper entitled

SUBCUTANEOUS EMPHYSEMA IN CHILDREN.

He gave the details of a very interesting case which followed a catarrhal pneumonia, and resulted in death. The subcutaneous tissues of the forehead, cheek, neck, and of the entire trunk, anteriorly to Poupart's ligament, and posteriorly to the iliac crest, were filled with air. It appeared in the neck first, and rapidly extended to the other parts. No autopsy could be obtained. He gave the histories of many cases, and discussed the causes of this condition and its treatment. He said that, as a local affection, it was found after operations and injuries in the vicinity of, or involving, the respiratory tract; or by the introduction of air through a tube in the loose subcutaneous tissue. General emphysema was rare in children, and was caused by interference with, or obstruction to, the respiration. Prognosis was good, unless the preceding disease had brought about great depression.

Dr. A. Caillé, of New York, reported a case of

MEMBRANOUS CROUP (LARYNGO-TRACHEITIS) IN A GIRL OF TWELVE YEARS OF AGE—TRACHEOTOMY—RECOVERY.

There were no visible signs of membrane in the nose or pharynx. Digital examination of the larynx revealed a stiff and thick epiglottis, and a marked flattening of the funnel-shaped laryngeal entrance. The treatment before operation consisted of small doses of bichloride of mercury in a watery solution with wine of ipecac. There was

[1] Organized in Washington, D. C., September 18, 1888.

a piece of pseudo-membrane coughed up nine hours before the operation, after which there was temporary relief to the dyspnœa.

Auscultation showed little respiratory murmur in the left lung, and during inspiration a short "flap" sound could be heard, which was thought to be due to detached membrane. After the operation, the temperature rose to 102°, 103°, 104° F., and this febrile condition persisted for one week. During this time a large amount of membrane was removed through the tracheal opening. (A bottle containing this membrane was exhibited.) A continuous spray, salt-water being the most acceptable, was absolutely necessary to insure comfortable breathing. The tube was removed on the fourteenth day, and the child made a good recovery.

Dr. Caillé also read a paper on

PERSONAL PROPHYLAXIS IN DIPHTHERIA.

He said that the acceptance of the principles governing antiseptic wound treatment has given a new stimulus to the study of disease prophylaxis. At the present stage of our knowledge, specifics for diphtheria are an illusion, and the medical profession should admit to the public that the treatment is entirely symptomatic. From a study of the subject, Caillé has come to the conclusion that municipal control of diphtheria is inadequate and impossible, just as the municipal control of infectious wound disease would be impossible. A good surgeon will find it possible to secure aseptic wound healing in filthy and infected localities, by directing his efforts to the parts liable to be infected. The physician's efforts to prevent and check diphtheria must lie in the same direction, though tempered with the full understanding that methods of occlusion such as in antiseptic surgical dressings are not applicable to the usual sites of diphtheria. It is positively known that diphtheria is infectious—is due to germs—and is first a local deposit, and a hyperæmic or defective mucous membrane favors its localization. The germs looked upon by many authorities as pathogenic, have been found in the naso-pharynx, buccal cavity, in carious teeth, etc., of persons in ordinary good health, who may harbor them for a time without becoming infected. When, however, a favorable condition of the mucous membrane is present infection takes place. In order to prevent diphtheria, therefore, we must seek to carry away putrid matter and keep in a healthy condition such parts as are liable to become diseased. That this can be done by nasal insufflations and gargling of non-irritating antiseptic liquids, and by reducing large tonsils, and filling or removing bad teeth, had been shown in a previous report by the writer. He has instructed many families in the employment of personal preventive measures during the past five years, and is firmly convinced of their value and easy application. He uses salt, alum, boric acid, potassium permanganate, potassium chlorate, and Labarraque's solution in water, which is dropped lukewarm into the nose, and is used as a gargle by older children and adults, two or three times a day. The same measures are adopted to prevent secondary diphtheria in every case of scarlet fever, measles, whooping-cough, etc. The author cited a number of cases, and gave instances in which the views expressed in his previous communication were corroborated. He suggested to his colleagues that a trial of this method would convince them of the great value of personal prophylaxis in diphtheria.

Dr. C. W. Earle, of Chicago, read a paper entitled

THE NECESSITY OF PROLONGED REST AFTER SOME ATTACKS OF DIPHTHERIA.

He said that he desired to call special attention to this class of cases, and to obtain the endorsement and influence of this Society, so that we can go before the great general profession and convince them that these cases require special care and prolonged rest in bed. He often keeps them in bed two or three weeks after all symptoms have subsided. This may not be necessary in every case, but it is safer. It is absolutely demanded, however, in all cases in which symptoms of paralysis are present, and should be insisted upon until every sign denoting it has disappeared. He urged that in the treatment of these cases the point of most importance, and most to be insisted upon, was prolonged rest in the recumbent position.

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AFTERNOON SESSION.

Dr. J. H. Fruitnight, of New York, read a paper entitled

THE TREATMENT OF SCARLET FEVER AND ITS COMPLICATIONS.

In the treatment of the febrile condition, he obtained the best results from the administration of the tincture of aconite root in doses of one drop every two hours. His experience with antipyrine and antifebrine had not been such as to lead him to continue their use; and, although he had had no experience with the hydropathic treatment, he would hesitate to employ it except in desperate cases.

In milder cases, he treated the angina and pharyngeal symptoms with tincture of chloride of iron. In those cases in which a deposit had formed, he added the hyposulphite of soda, and in very severe cases the bichloride of mercury. When the exudate was extensive, he used trypsin in spray, alternating with a weak preparation of Lugol's solution or carbolic acid. The adeno-cellulitis, which is not uncommon, he treated with absolute rest, all manipulation of the parts being positively forbidden. If suppuration occurs, it is encouraged, and as soon as pus can be detected it was evacuated.

He treated the nephritis by rest in bed, warmth, and a generous milk diet. Hot vapor bath and digitalis were given when there was much dropsical effusion. There tincture of chloride of iron was not withheld, and when needed hydragogue cathartics were given, and for their diaphoretic effect the muriate of pilocarpine and jaborandi were used. He treated the otitis by warm fomentations to which an anodyne was added. After suppuration was established, he used antiseptic injections followed later by astringent ones, and for the pain he dropped into the ear a weak, warm salt solution. When the inflammation was severe, he applied leeches to the tragus, and when the mastoid cells threatened to be involved, leeches were also employed. The rheumatism complicating scarlet fever was treated the same as a simple rheumatic attack, *i.e.*, with the salicylate or salol and alkalies. Other complications were treated *pro re nata*.

A general principle of treatment was to keep up the strength of the patient, hence cardiac stimulants were employed early in the course of the disease, combined with good, nutritious, and easily digested food. The sick-room should be cool and well ventilated, and the isolation of the patient should be insisted upon as a prophylactic measure. Inunction of the skin was not advised, as it is thought to interfere with desquamation, but instead the writer recommended warm baths impregnated with an antiseptic solution.

Dr. Joseph O'Dwyer, of New York, read a paper entitled

THE APPARENT PHYSICAL CONTRADICTION INVOLVED IN THE REINFLATION OF A COLLAPSED LUNG WHILE AN OPENING REMAINS IN THE PLEURAL SAC.

He said that this was a physical paradox, which none of the laws either of physics or of physiology could apparently account for. After discussing in detail all the various theories advanced for the explanation of this phenomenon, he showed their weak points, and demonstrated that they did not explain the problem. He considered the power of the normal lung to inflate the collapsed lung by coughing and sudden forcible expiration; but this did not offer a complete explanation, because in such cases the lung should immediately recollapse, which it did not do, and again because, in cases of double empyema with an open-

ing in both pleural cavities, there should be immediate death from asphyxia, while as a matter of fact the lungs expanded under such conditions very well.

DISCUSSION.

DR. NORTHRUP made some animal experiments to determine whether the force of cohesion between the two pleural surfaces was sufficient to maintain the lung in complete expansion, the parietal pleura having been punctured. Samuel West, in his Bradshawe Lecture, 1887, had claimed that such force was sufficient. In five successive operations upon dogs' pleuræ, the lungs collapsed the instant a pin-hole opening was made, thus contradicting the statements of Samuel West. Further experiments were reported, in which a dog's two pleuræ were fitted with double-flanged cannulæ, stoppered with corks. Until the dog recovered from ether the two corks were left in place. When fully recovered one cork was withdrawn, and the dog scarcely suffered dyspnœa on moderate exertion. When both corks were removed, the dog travelled about for two minutes and succumbed to severe dyspnœa, which again entirely disappeared on replacing the corks. Other experiments to determine the behavior of the lungs, the chest having been fully opened, were reported, illustrating the expansive force of strong expiratory effects.

DR. DILLON BROWN, of New York, read a paper entitled

NOISY RESPIRATION IN CHILDREN.

It was a paper on diagnosis, in which the author related a number of curious cases, and after briefly giving an outline of the different diseases in which noisy respiration is a symptom, considered the differential points by means of which a diagnosis by exclusion could be made.

DR. H. KOPLIK, of New York, read a paper entitled

TUBERCULOSIS OF THE TESTIS IN CHILDHOOD.

Including his own case, the author could find in the literature of the subject only twelve cases of primary tuberculosis of the testis occurring in infants and children. The disease in some of these cases was noticed at the birth of the patients, and in others it was clinically diagnosed at the second month, and up to the third year of life. The right testis was the selected organ in most of the cases. In some cases the epididymis, and in others the testis, was first noticed to be the seat of the disease. In one case general tuberculosis followed the testicular trouble, and in another case a secondary cerebral tumor (tubercle) was the cause of death. In some a favorable result is recorded following castration; in others, no such record is made. In four cases the spermatic cord was affected; in one case the disease had spread to the prostate and seminal vesicles. In no case could a traumatism be clearly demonstrated, and in most of the recorded histories the parents were the victims of tuberculosis, thus lending additional support to the theory of a congenital origin. In these cases the author advocated early extirpation, even when the tubercle bacilli could not be satisfactorily demonstrated in the scrapings of a sinus. Delay tended to increase the chances of a return after castration.

The author's case was that of a child aged twenty-two months, with an hereditary history of phthisis. The diagnosis was made by establishing the presence of the tubercle bacilli in the scrapings of a discharging sinus. A return of the disease occurred at the site of the operation after three months. Disease of the other organs could not be established clinically. The diagnosis in these patients is always to be made between syphilis and tuberculosis. The author presented a detailed microscopic examination, histological and bacteriological, of the diseased testis and epididymis in this case. Microphotographs were shown, illustrating the following histological changes: Diffuse tubercle, interstitial changes, acute miliary eruptions both in the testis and epididymis.

DR. FRANCIS HUBER, of New York, read a paper entitled

ACUTE SUPPURATIVE PERITONITIS FOLLOWING VULVO-VAGINAL CATARRH.

The patient was seven years of age, and the symptoms simulated a case of perforation of the appendix. Laparotomy was performed by Dr. Bull, of New York, the abdomen being opened by a lateral incision over the colon. Considerable sero-purulent fluid was found in the peritoneal cavity; the intestines were distended with gas, congested, and here and there coated with lymph. The appendix was perfectly normal in appearance, and no concretions could be detected through its walls. The right Fallopian tube, however, with its extremity, was inflamed, thickened, and evidently had formed the channel by means of which the infecting process had gained entrance into the peritoneal cavity, and thus gave rise to a train of symptoms simulating closely a case of perforation of the appendix. The abdomen was then washed out with hot water, the wound sewed up, and an antiseptic dressing applied. Twenty hours later death occurred from heart failure, the pain and vomiting persisting to the end.

DR. W. P. NORTHRUP, of New York, read a paper entitled

SCLEREMA NEONATORUM; REPORT OF A CASE.

A twin, female, died on the ninth day after birth with typical sclerema of the new-born, as observed in the foundling asylums of Germany and France. Its temperature four days before death was 96½° F. in the rectum. There was subcutaneous hardening where the fat was most abundant about the buttocks and thighs, shoulders and arms, cheeks, and other parts of the body in less degree. The hip- and shoulder-joints became immovable, the knee- and elbow-joints stiff. The child was of a dirty yellow color, hard and cold as though frozen, the temperature gradually descending until it could not be measured on the register of any clinical thermometer. The subcutaneous tissues were examined microscopically and showed no change in either blood-vessels, connective tissue, or fat. The writer had not been able to find more than two other cases occurring in American literature which presented the characteristics so often observed in France and Germany. Many theories had been presented to account for the subcutaneous hardening, but only one offered any satisfaction, and that was the increased proportion of stearine and palmatine compared with oleine always present in children's fat. On exposure to cold in case of a weak foundling, the body-heat might become sufficiently lowered to inaugurate the process of hardening of the stearine and palmatine.

DR. L. EMMETT HOLT, of New York, read a report of a case and presented a specimen of

CONGENITAL MALFORMATION OF THE HEART; COMPLETE ABSENCE OF THE SEPTUM VENTRICULORUM, PULMONARY STENOSIS, AND PATENT FORAMEN OVALE.

The child lived to be eighteen months of age, and died of acute pneumonia, having been under observation for two months. Marked cyanosis had existed from birth. During life the apex-beat was one-half inch to the left of the right nipple, and a loud systolic murmur was present at the apex, but louder at the junction of the left second intercostal space and the sternum, and transmitted toward the left shoulder. It was not heard behind. The normal area of cardiac dulness gave pulmonary resonance. At the autopsy the heart showed: 1. Absence of the septum ventriculorum, the division being marked by only a slight ridge. 2. Very marked pulmonary stenosis, the orifice being about one-fourth inch in diameter. 3. Patent foramen ovale, the opening easily admitting one finger. 4. A shallow pouch, which was the rudimentary left ventricle. 5. A right ventricle, very much hypertrophied, out of which opened both the pulmonary and aortic

arteries, and into which opened both the mitral and tricuspid orifices. The heart was deflected to the right about as much as usually to the left. The border of the right lung was hollowed out for its reception, that of the left being straight.

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EVENING SESSION, HELD AT THE ARLINGTON HOUSE.

DR. A. V. MEIGS, of Philadelphia, read a paper entitled

THE ARTIFICIAL FEEDING OF INFANTS.

The author said that, after a long experience, he had seen no reason for making any radical change in the artificial food which he had previously recommended. He had found that mother's milk never contained more than one per cent. of casein. This food was based upon the dilution of cows' milk, for the reason that it contains too much casein; the further need of the addition of cream because, in diluting, the fat was reduced to too small an amount; the addition of sugar, to make it equal to the amount contained in human milk; and of lime-water, to change it from being an acid to an alkaline fluid. However, he had fallen upon several improvements to render it easier to get together the required amounts of the different constituents, and thus simplifying the work of the nurses. He directs that instead of taking cream and milk in the proportion, respectively, of two and one in eight, three parts of a weak cream be used, which is obtained as follows: One quart of good ordinary milk is obtained and placed in a high vessel, and allowed to stand in a cool place for three hours. Then one pint is poured slowly from this, care being taken that the vessel is not agitated, the object being to obtain the upper layer of fluid, rich in fat, and leave the lower comparatively poor portion behind. When the child is to be fed, there is taken of this weak cream three tablespoonfuls, of lime-water two tablespoonfuls, and of sugar-water three tablespoonfuls. The sugar-water is to be made in the proportion of eighteen drachms of milk-sugar to one pint of water. This is an improvement upon the food recommended previously by the author, because it is more economical (cream being expensive) and the food is less likely to ferment.

DR. J. A. JEFFRIES, of Boston, read, by invitation, a paper entitled

A CONTRIBUTION TO THE STUDY OF THE SUMMER DIARRHŒAS OF INFANCY.

He held that the cases formed a group or genus of diseases, all closely related, but rarely just alike, and rejected climate, heat, foods, and the like, as direct causes. He then reported the results of his bacteriological examinations of the stools. In these he found thirty-one kinds, but no kind sufficiently often to suggest a specific germ.

The writer then reported a series of experiments upon young cats. Cats fed with pure cultures of the various bacteria remained perfectly well. Cats fed with pure cultures of several kinds in milk contracted summer diarrhœa which ran on to a fatal issue, though the food was changed to fresh milk. The species fed in the milk were rarely found in the intestines. Kittens fed with milk affected by the bacteria, but not curdled, and then sterilized, died in the same way.

From an examination of all the data, he held that the complaint in the kittens was the same as in children, and that it was due to the products of the growth of many forms of bacteria in the food, both before and after consumption. Most bacteria were probably unable to make head against healthy digestion, but flourished if this were disturbed in any way. Probably species not found by him also existed, which were able to thrive without any favoring conditions. Lastly, he pointed out the close relation between summer diarrhœa and that group of symptoms first brought into prominence by Panum—putrid infection. From the therapeutic side, he pointed out that the first thing to do was to keep germs out, and also their products, and that, so far as known, sterile food reduced the number of germs in the stools as much or more than any drug.

Lastly, that it must ever be borne in mind that serious changes were being produced in the intestines, and must be considered apart from all bacteria. Kill every germ in the body, and the eroded and swollen gut must still be attended to.

DR. JOSEPH O'DWYER, of New York, read a paper entitled

CASE OF DIAPHRAGMATIC HERNIA, WITH OPERATION.

The physical signs closely simulated those of an empyema, and a positive diagnosis could not be made until the chest was opened. By removing portions of the two lower true ribs, the false ribs could be pushed down out of the way, and ample room for operation was obtained. After a great deal of difficulty, the intestines were pushed back into the abdominal cavity, and the edges of the opening through the diaphragm, after being refreshed, were brought together and held in place with sutures. The pressure from below on the stitches was so great that it was necessary to keep up counter-pressure from above with a large pad of antiseptic gauze. The child rallied from the operation, but died later on, suddenly, when apparently doing very well. This was the only case on record in which this operation was done. The author exhibited the diaphragm with portions of the chest-wall.

DR. A. CAILLÉ, of New York, reported a case of

PROLAPSUS RECTI, DUE TO LARGE STONE IN THE BLADDER, IN A GIRL OF THREE YEARS.

The patient had been presented at many of the clinics of New York as a case of inveterate prolapse. The gut was usually out two inches, but came down fully seven inches by straining. Micturition was painful, and the urine contained pus. The sphincter ani was relaxed so as to admit three fingers. On careful examination a large stone was found free in the bladder, and removed by suprapubic cystotomy. In extracting the stone the bladder wound was slightly lacerated, in consequence of which the bladder suture leaked slightly on the fourth day. The process of healing took place without fever, and the child was discharged cured in three weeks. The prolapse of the gut was due to the straining caused by the stone in the bladder, and its removal was followed by a complete cure of the prolapse.

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SECOND DAY—SATURDAY, SEPTEMBER 21ST—MORNING SESSION.

*Held at the Johns Hopkins Hospital, Baltimore.*

DR. H. N. VINEBERG, of New York, read a paper entitled

SOME PRACTICAL POINTS ON THE DIAGNOSIS AND TREATMENT OF MALARIA IN CHILDREN.

The author said that the same vagueness in the diagnosis of malaria in early life was met with as in adult life. There was no good reason for using the term as a cloak of ignorance, for malaria was due to a definite poison and was attended with characteristic symptoms. It was the aim of the writer to bring the most reliable and prominent symptoms under review, and discuss each symptom separately, thereby endeavoring to show its diagnostic value. His remarks were based upon a careful study of eighty cases that came under his own observation, and the perusal of the literature pertaining to the subject.

The signs of acute malaria in early life were chills, convulsions, fever, sweating, enlargement of the spleen, and hæmatozoa in the blood. He carefully analyzed each of these symptoms and their characteristics in malaria, and determined their diagnostic value. He said that the spleen enlarged more rapidly and to a greater degree than in the adult; and that this enlargement was constantly present in the malaria of children. That it must be made out by percussion, and not by palpation as in the adult, because

in early life the enlarged spleen pushed its way upward and backward, and was prevented from descending by the costo-colic ligament, which at that period of life was very rigid. If the dulness did not extend above the upper border of the ninth rib, an accumulation of fæces in the colon should be suspected.

The weight of evidence is in favor of the pathognomonic value of the plasmodium malariæ, but unfortunately it is present only in the more pronounced and severe cases, and is difficult of detection when present.

Chronic malaria was made to include the milder forms of malarial poisoning, which might at first be expressed by acute symptoms, but generally the affection began insidiously. The symptoms in this condition were lassitude, drowsiness, headaches, vertigo, wandering pains in various parts of the body, anorexia, bloody diarrhœa, emaciation, a peculiar tint of the skin, anæmia, urticaria, night-sweats, asthmatic attacks, and pain over the region of the spleen. None of these symptoms were characteristic of malaria, but were also present in a number of other chronic affections. Here, even more than in the acute forms, enlargment of the spleen was a *sine qua non* in the diagnosis of malaria. He called attention to the presence of night-sweats and of attacks of syncope, as symptoms of this condition, which are not mentioned in the literature of the subject.

The treatment of malaria in early life was not the easy matter that some authors led us to suppose. In the acute form, quinine in full doses was most to be depended upon. It was best given in solution with aromatic sulphuric acid and syrup of lemon, or coffee. In private practice the chocolate tablets were valuable. In the chronic variety, it was well to combine the quinine with arsenic. Ergot was found very valuable to reduce the splenic tumors, which often persisted long after the other symptoms had subsided. Pure nitric acid, well diluted, was serviceable in preventing the relapses to which children are so subject.

Dr. Thomas S. Latimer, of Baltimore, showed two

CASES OF SPASTIC PARAPLEGIA.

Both occurred in the same family. In one case the contracted muscles were cut, which gave her marked benefit and improved her walk. In spite of this, however, she is progressively growing worse, and the disease, a cerebral sclerosis, is still active.

Dr. W. D. Booker, of Baltimore, read a paper entitled

A STUDY OF SOME OF THE BACTERIA FOUND IN THE DEJECTA OF INFANTS AFFECTED WITH SUMMER DIARRHŒA (SECOND COMMUNICATION).

This article is the continuation of one read at the Ninth International Medical Congress. It contains a description of 17 varieties of bacteria, isolated from the fæces of 14 children affected with summer diarrhœa.

Bacteria have thus been isolated from the fæces of 30 infants affected with summer diarrhœa, 11 of whom had cholera infantum, 14 catarrhal enteritis, and 5 dysentery. With the exception of bacterium lacti ærogenes and bacterium coli commune, the two constant milk fæces bacteria, no species appear with much constancy, taking the cases as a whole. If the different forms of bacteria are cultivated separately, in the cases classified under the head of cholera infantum, the proteus group has been found in 7 of the 11 cases examined. In the four cases in which no member of this group was found, agar was used exclusively as the separating medium, and in the other case a number of cultures were lost before being identified.

Not only do the proteus bacteria possess in a high degree the power to excite putrefaction; but on account of their extensive and frequent occurrence, they belong to the most important and ordinary putrefactive exciters. The prominent symptoms of the cases of cholera infantum in which the proteus bacteria were found, were drowsiness, stupor, emaciation or great reduction of flesh, more or less collapse, frequent vomiting and purging, with watery and generally offensive stools. Experiments on lower animals with proteus vulgaris and bacillus A. gave about the same results. Bouillon cultures injected into the veins of rabbits caused death in a few hours. There was drowsiness and stupor, and finally convulsions, in all cases; and in some diarrhœa, the latter very profuse in two cases. Cultures directly injected into the intestine, when exposed in a bath of normal salt solution at 38° C., caused active peristalsis. Cultures fed to young animals resulted generally in death, and in some diarrhœa occurred.

The frequent occurrence of this widely spread group of putrefactive bacteria in the most serious cases of summer diarrhœa, in which toxic symptoms are more or less prominent, cannot be without significance. In cases of diarrhœa free from toxic symptoms, no member of this group of bacteria has been found, nor were they found in the healthy fæces of sucklings.

Another species of bacteria which liquefies gelatine and possesses pathogenic properties on lower animals, was found in a large quantity in three cases of cholera infantum and one fatal case of dysentery. In two of the cases of cholera infantum, the proteus vulgaris was also found. These two cases were especially grave, and had decided stupor.

No variety of bacteria appeared to be associated especially with the cases of catarrhal enteritis and dysentery. The fæces in catarrhal enteritis often contained an enormous quantity of bacteria, chiefly varieties of colon bacteria and bacterium lactis ærogenes, with a number of inconstant varieties.

In conclusion, it must be understood that the work is too incomplete to admit of positive conclusions, and as referring to the examination of but a limited number of cases, in which not even all the varieties of bacteria contained in the fæces that can be cultivated on our present nutritive media are supposed to have been separated, and those separated had been but incompletely studied.

Dr. A. Seibert, of New York, read a paper entitled

TWO YEARS OF EXPERIENCE IN THE MECHANICAL TREATMENT OF GASTRO-INTESTINAL DISORDERS IN INFANTS.

He said that, as we now admit that these affections are caused by bacteria and chemical poisons getting into the digestive organs of the children, it appears but rational to follow the first logical therapeutic indication, and empty the stomach and intestines of these noxious substances. The profession, here and abroad, has been too conservative in following this imperative and clear indication. Calomel and castor-oil do not cleanse sufficiently. Epstein's method of stomach washing in infants, and Baginski's proposed bowel washing in all cases of diarrhœa, have long been overlooked entirely, and are still ignored by the majority of practitioners. Seibert reports on 1,404 cases of gastro-intestinal disorders in children under three years, treated within the last two years. Stomach washing was done in 521 cases, and bowel washing in 1,309 cases. The majority of the cases in which stomach washing was employed suffered from acute gastro-intestinal catarrh, nearly all of a severity to produce more or less pronounced collapse. Of these 6 died. Besides, cases of entero-colitis with true intestinal inflammation were treated by both methods, and also all cases of chronic gastro intestinal catarrh. All cases of diarrhœa, whether mild or severe, were treated by bowel washing. In all cases of infantile dyspepsia the stomach was washed.

MORTALITY.

Acute gastro-intestinal catarrh, about five hundred cases with six deaths. Entero-colitis with peritonitic irritation, eight cases with six deaths. Chronic gastro-intestinal catarrh (with atrophy and marasmus), about one hundred with one death (in this case the mother had tuberculosis). In cases of acute simple diarrhœa, including follicular en-

teritis, no deaths occurred. The youngest child stomach washing was practised on was a day and a half old, the author's own baby. All children felt better after stomach and bowel washing. Collapse in cholera infantum is the strongest possible indication for stomach washing; the deeper the collapse, the sooner the stomach and bowel ought to be cleansed. The writer never saw collapse get worse after washing, and never had any accident.

The following papers were read by title: "Aneurism in Early Life," by Dr. A. Jacobi, of New York; "Scarlet Fever," by Dr. I. N. Love, of St. Louis; "Recent Improvements in Infant Feeding," by Dr. J. Lewis Smith, of New York; "Two Cases of Hepatic Cirrhosis in Children," by Dr. M. P. Hatfield, of Chicago; "Notes on a Case of Ataxia in a Child of Ten Years," by Dr. A. D. Blackader, of Montreal; "Carpo-pedal Contractions, One Manifestation of Tetany," by Dr. C. W. Earle, of Chicago; "Two Cases of Nystagmus Associated with Choreatic Movements of the Head in Rachitic Babies," by Dr. A. Caillé, of New York; "A Case of Simple Muscular Atrophy of the Facio-scapulo-humeral Type," and "Cerebral Sclerosis in Children," by Dr. William Osler, of Baltimore.

The following officers were elected for the ensuing year: *President*—Dr. J. Lewis Smith, of New York; *First Vice-President*—Dr. A. V. Meigs, of Philadelphia; *Second Vice-President*—Dr. F. Forchheimer, of Cincinnati; *Secretary*—Dr. W. D. Booker, of Baltimore; *Recorder*—Dr. W. P. Watson, of Jersey City; *Treasurer*—Dr. C. W. Earle, of Chicago; and *Council*—Dr. T. S. Latimer, of Baltimore, Dr. J. M. Keating, of Philadelphia, Dr. I. N. Love, of St. Louis, Dr. S. C. Busey, of Washington, Dr. C. P. Putnam, of Boston, Dr. A. D. Blackader, of Montreal, and Dr. L. E. Holt, of New York.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from September 29 to October 5, 1889.*

ADAIR, GEORGE W., Captain and Assistant Surgeon. Leave of absence granted for one month. S. O. 90, Headquarters Department of the Platte, September 25, 1889.

POINDEXTER, JEFFERSON D., Assistant Surgeon. Granted leave of absence for one month. S. O. No. 113, Headquarters Department of Dakota, September 30, 1889.

POPE, BENJAMIN F., Surgeon. Relieved from duty at Fort Clark, Tex., and will report for duty to Commanding Officer, Whipple Barracks, Arizona Ter. Par. 11, S. O. No. 230, A. G. O., October 3, 1889.

BILLINGS, JOHN S., Surgeon. Detailed as delegate to represent the Medical Department of the Army at the annual meeting of the American Public Health Association, to be held at Brooklyn, N. Y., October 22, 1889. Par. 10, S. O. No. 230, A. G. O., October 3, 1889.

TREMAINE, WILLIAM S., Surgeon. Relieved from temporary duty at Fort Leavenworth, Kan., and will return to his home (Buffalo, N. Y.). Par. 13, S. O. No. 230, A. G. O., October 3, 1889.

KENDALL, WILLIAM P., Assistant Surgeon. Granted leave of absence for one month. S. O. 93, Department of the Platte, October 2, 1889.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 5, 1889.*

HARMON, GEORGE E. H., Surgeon. Detached from the U. S. S. Constellation, and ordered to Naval Academy.

LOWNES, C. H. T., Assistant Surgeon. Detached from the U. S. S. Constellation, and ordered to Naval Academy.

WINSLOW, GEORGE F., Surgeon. Ordered to Marine Rendezvous, Boston.

HENRY, CHARLES P., Assistant Surgeon. Ordered before the Retiring Board for examination.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 5, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 62 | 14 |
| Scarlet fever | 40 | 5 |
| Cerebro-spinal meningitis | 2 | 2 |
| Measles | 23 | 2 |
| Diphtheria | 61 | 13 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE PATHOLOGICAL BEARINGS OF HEREDITY.—Animals, including man, have arrived at their present state of development by the combined, but rival, forces of heredity and evolution, the latter term including the effects of surrounding environment. Evolution without heredity, as Ribot observes, would render every change transitory, and every modification, whether beneficial or not, would disappear with the individual. The results of heredity without evolution, on the other hand, would give us the monotonous conservation of the same types fixed once and for all. With heredity and evolution we have life and variation. Evolution produces physiological and psychological modifications, habit fixes these in the individual, and heredity fixes them in the race. These aphorisms apply as well to diseased conditions as to health, and in endeavoring to unravel the mysterious bearings of heredity upon disease we have to bear in mind the conflicting influence of stability with this tendency to variation. The operation of hereditary tendencies is perpetually disturbed by innumerable circumstances unappreciable by our means of observation, but capable nevertheless of producing varieties infinite alike in extent and degree. It is well known that sensitiveness, whether to general or special impressions, varies extremely in different individuals. An operation which involves pain amounting to agony to one person will be borne by another with comparative indifference, and the tissues of one person will react to stimuli to such an extent as to cause violent inflammation, while those of another prove quite passive under similar circumstances. It is this varying irritability which explains the fact that no two cases are exactly alike of the same disease. These differences are distinctly transmissible from parent to offspring, and when the inherited quality is a tendency on the part of certain tissues to react more readily than normal to morbid influences, we say that a person has a diathesis. What we term, for the want of a better word, idiosyncrasy, is in reality a diathesis or part of a diathesis—a peculiar susceptibility of the individual to react unduly, either in excess or otherwise, to certain stimuli. Idiosyncrasies may be transmitted, as they very frequently are, but they are in any case congenital. These peculiarities of tissue and function often remain latent until some morbid process emphasizes the fact that a particular proclivity exists in the individual. We cannot better illustrate this point than by quoting the well-known story, that of several hunters who were thrown at the same time into the same stream of water, no two were affected alike. In one an attack of rheumatism marks the tendency of joint-tissues

to take on a certain process of inflammation. In another an attack of inflammation of the lungs points out the pulmonary apparatus as the organ least endowed with powers of resistance, while a third simply gets a cold in the head. As for the horses, they very probably escape scot free in the absence of any special or general variation in the tissue tendencies. While we recognize clearly enough that certain diseases are largely influenced by inherited tendencies, there are others, and these the majority, in which the influence of heredity is more or less indistinct, but it is as certain as anything of the nature of a deduction can be that the conduct of a particular organism, in the face of morbid influences, is determined largely by inherited qualities of tissue, even when the susceptibility is difficult or impossible to make out. The problem before us is to discover and elucidate the natural laws which govern and regulate the transmission of mental and physical qualities, or, in the words of Mr. Lewis, "the paths along which forces travel to their particular results." We are already in possession of a large number of facts and observations bearing upon the "how," though the "why" still remains, and is likely to remain, unfathomable. These relative individual differences of bone tissue-cell, organ, membrane, and vessels, which are admitted by all competent authorities, really form the foundation of all sound views in pathology, and the more they are recognized and appreciated the more will the art of medicine acquire scientific exactitude and increased usefulness to humanity. In the words of Sir James Paget, better treatment will follow better diagnosis, and better diagnosis will certainly follow a more exact pathology.—*The Medical Press.*

Immediate Relief of Hoarseness.—The first Napoleon is said to have been subject to sudden attacks of severe hoarseness, for the immediate relief of which his physician was in the habit of prescribing the following, known as Foreau's syrup:

℞. Liquor ammoniæ fortioris ..... ..... ♏ x.
Syrupi erysimi..... ..... ʒ iss.
Infusionis tiliæ florum..... ʒ iiss.
M. To be taken at one dose.

Erysemum officinale (*sisymbrium offic.*), or hedge mustard, is no longer officinal, but is easily obtained. It is a small annual growing almost everywhere in the United States and Canada, as well as in Europe. The infusion of linden (tilia) is used simply as an agreeable vehicle, and may be dispensed with or supplanted by any other pleasant vehicle.—*St. Louis Medical and Surgical Journal.*

An Historico medical Coincidence.—In Rome, where the Sacred Way descends into the Forum, stands the interesting old church dedicated to Saints Cosmas and Damianus, two Christian physicians who for their services and sufferings in Arabia were canonized by the Pope. Damianus, or, as he is called for brevity's sake, Damian, became a power in Italy, where more than one house of prayer was reared in his honor, notably that one in the Umbrian hills. It was there that St. Francis of Assisi devoted himself to the spiritual life, and in a special manner to the cure of leprosy, a disease which by that time (the latter half of the twelfth century) had been introduced by the Crusaders from the East into all the countries washed by the Mediterranean. A ritual was compiled to celebrate with awful solemnity the isolation of the leper from his fellow-Christians—"a pathetic and melancholy service, in which the sternest interdict was softened by words of consolation and pity." Moved by their forlorn condition, St. Francis became the constant associate of the leprous and the inmate of their asylum at Assisi, where he washed their feet and dressed their sores—to which, indeed, in one case he applied his lips with such effect that the poor leper instantly became whole. So, at least, says St. Bonaventura. But the interesting point is this: that his care and cure of these victims to a loathsome malady was practised "sub invocatione Sancti Damiani" (under the invocation of St. Damian), a saint who six centuries thereafter was to find a counterpart in a Belgian priest of almost identical name—the Père Damien, whose noble life and death in the leper island of Molokai will never fade from the annals of his church, or, indeed, from the history of the world. The Vatican, it is understood, has taken the preliminary steps toward the canonization of this true martyr in the service of mankind, and though the prescriptive period required for admission into the saintly calendar will not expire till well on into the twelfth century, there may be those now living who will survive to witness the Church of Rome's invocation of St. Damienus, closely allied in merit as in name with that other St. Damianus, who inspired St. Francis to his life of philanthropic self-sacrifice.—*The Lancet.*

Chicha Poisoning.—The *Anales de la Instrucción Publica en la Republica de Colombia* contain an interesting account of the effects produced by over-indulgence in a certain popular drink called "chicha," which is prepared by the fermentation of malted maize, with the addition of the leaves of the primum payaca, or "sandino," as it is called in the country. This beverage, when taken in excess, produces a feeling of extreme weariness, rendering the patients totally unfit to follow any kind of employment. There is also observed a loss of the power of co-ordination, which may make it possible on a cursory inspection to mistake the case for one of locomotor ataxia or spasmodic tabes; but "chichinism" can be distinguished from these conditions by making the patient shut his eyes and stand or walk, and touch his toes with his hands, all of which he is able to do. The course of chichinism, too, is quite short, and it may terminate in trophic changes and acute diffuse myelitis. Another symptom which is frequently observed is an erythema of the dorsum of the hand, similar to that seen in pellagra. Physiological experiments also show that the chicha has a special action on the skin; for frogs subjected to its influence present very decided changes of color. With chronic alcoholism there is a good deal of affinity, but there does not seem to be any liability to excitement or hallucinations.—*The Lancet.*

The Dread of Death.—Sir Lyon Playfair, in a letter to Junius Henri Browne, author of a paper with the above title, says: "Having represented a large constituency (the University of Edinburgh) for seventeen years as a member of Parliament, I naturally came in contact with the most eminent medical men in England. I have put the question to most of them, 'Did you, in your extensive practice, ever know a patient who was afraid to die?' With two exceptions they answered 'No.' One of these exceptions was Sir Benjamin Brodie, who said he had seen one case. The other was Sir Robert Christian, who had seen one case, that of a girl of bad character who had a sudden accident. I have known three friends who were partially devoured by wild beasts under apparently hopeless circumstances of escape. The first was Livingstone, the great African traveller, who was knocked on his back by a lion which began to munch his arm. He assured me that he felt no fear or pain, and that his only feeling was one of intense curiosity as to which part of the body the lion would take next. The next was Rustem Pasha, now Turkish Ambassador in London. A bear attacked him, and tore off part of his hand, and part of his arm and shoulder. He also assured me that he had neither pain nor fear, but that he felt excessively angry because the bear grunted with so much satisfaction in munching him. The third case is that of Sir Edward Bradford, an Indian officer now occupying a high position in the Indian Office. He was seized in a solitary place by a tiger, which held him firmly behind the shoulders with one paw and then deliberately devoured the whole of his arm, beginning at the end and ending at the shoulder. He was positive that he had no sensation of fear, and thinks that he felt a little pain when the fangs went through his hand but is certain that he felt none during the munching of his arm.—*The New Idea.*

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## Original Articles.

### A PATHOLOGICAL CONDITION OF THE LUNGS, HITHERTO UNDESCRIBED IN THIS COUNTRY, BUT WHICH IS NOT INFREQUENT.

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DURING the course of a very prolonged service in hospitals I have repeatedly observed a condition of the lungs which is markedly distinct and characteristic, which I have not seen described. I speak of it at present only as a pathological condition, leaving it to others to decide whether it should take rank as a distinct disease.

Certain patients presented the following symptoms: Dulness, or subdulness, generally at the middle, lateral, or posterior portions of the chest; there was always imperfect respiration; scarcely any râles were present, or if so, they were sparsely disseminated, and generally the subcrepitant; or, perhaps, in lieu of râles there was only rough breathing. The condition was consequent on antecedent morbid states, and there was not necessarily elevation of temperature; there did not exist evidence of any acute inflammation, or any of the well-known classic diseases of the chest—no phthisis, pneumonia, bronchitis, pleurisy, emphysema, hydrothorax, etc. The positive physical signs of these several diseases were all absent—there was no crepitant, or sibilant, or crackling râles; neither was there pain nor rubbing sounds. So all the diseases which these signs indicated had to be excluded, and a name was wanted for the new condition which had been isolated.

But to continue the citation of positive and negative symptoms: The respiratory murmur, though not normal, was not completely absent, for the lung was still pervious to air; the vocal resonance—or what I prefer to term the reverberation of the voice—was slightly affected; some complementary respiration might be present, but this was not very decided, because there was no absolute consolidation; scarcely any dyspnœa may exist, and the cough may be moderate or absent.

Constantly, also, when an autopsy was afforded in such cases, the physical evidences of the diseases above cited were absent, *and there was invariably present a large amount of bloody serum exuding from the cut surfaces, and it would flow most freely when the lung was squeezed.* Here was plainly a gross morbid fact, which had to be noted and accounted for.

No disease of the heart coexisted, to the obstruction produced by which might be ascribed the collection of bloody serum; and though I have not yet been able to associate the two, I would not be surprised if cases were found to be dependent upon diseases of the heart.

In a hepatized or in a solidified lung the dulness is complete, and there is bronchial, and often puerile, respiration in the healthy areas, so that hepatization and solidification were also excluded. It was not œdema, for this is general over both lungs, and Laënnec had taught us that the crepitant râle is as characteristic of œdema as it is of pneumonia. I have heard, as it were, a shower of fine crepitation over the entire lungs in a case of œdema consequent upon measles; the œdema was detected by means of the râles. The crepitant râle was not present, nor the fever, etc., essential to pneumonia; neither was there any rusty-colored sputa.

The conditions with which our cases would be most likely to be confounded would be the hypostatic congestion, or the hypostatic pneumonia of recent authors—if such a disease exists. But these will be referred to again.

I long since began to designate the condition, or disease, referred to as "Engorgement of the Lungs"—serum being always mixed with blood. I was compelled to use these terms, because they were true and applicable, and were essential in describing and interpreting the condition. I felt satisfied that others must frequently encounter a like pathological state, especially in hospitals; but I could get no response or support from authorities in this country. I wrote to Professor Austin Flint upon the subject years ago. The loss of his letter is regretted, together with the notes of cases with autopsies, though I possess the record of one observed in 1879, and had been observing and demonstrating the condition long anterior to that period. Some illustrative cases will be inserted at the conclusion of this paper.

My cases of engorgement of the lungs exist for days and weeks, and do not depend wholly upon the accidencies of position, stasis of the blood, age of patient, or want of vitality. The powers of life are not specially enfeebled. They do not seem to depend on Bright's disease, dropsy after scarlet fever, measles, infectious diseases, etc.—as is the case with congestion of the lungs and œdema. I did not for a moment dream of calling them hypostatic congestion—certainly not in the old sense of the use of the term, for the condition is not necessarily hypostatic in cause.

The term infiltration is not very inapplicable, and the diagnosis may be attended with difficulty; but I have seen lungs infiltrated after severe pneumonias, and tubercular infiltrations exist; but in neither case is there often a large flow of serous fluid when the lung is cut, as is constant in engorgement of the lungs. This I have repeatedly observed in autopsies—some of them quite recent, and examined with a view to determining this question. Yet I have also recently seen serum with bloody and purulent matter exuding from the lungs in a well-marked case of general tuberculosis. The presence of fever, purulent expectoration, rise of evening temperature, and other signs of tuberculosis must be used to aid in their distinction from engorgement of the lungs.

I consulted, almost accidentally (1888), Ziemssen's "Cyclopædia," vol. v., "Diseases of the Respiratory Organs." In Juergensen's paper therein, entitled "Hypostatic Processes of the Lungs" (p. 236), I found that I was supported by one writer, he a master-mind (M. Piorry); and the simple fact may now be stated that I had indicated a diseased condition besides those usually recognized by the profession; and this had in a great measure corresponded with what Piorry has pointed out as a distinct form of disease, to be recognized and treated by the general practitioner. I had noticed and had endeavored to attract attention to a most marked and characteristic morbid condition, which physicians in hospital practice must have met, and must now meet, but failed to recognize, name, and separate from others.

Juergensen writes as follows, *loc. cit. sup.*: "Hypostatic pneumonia and hypostatic conditions of the lungs were first recognized as a *distinct form of pulmonary diseas* through the labors of French writers. Pre-eminent among them is Piorry, who handles the subject with great clear-

ness, and whose teachings are based upon a rich experience. He likewise gave the disease its name."

"Piorry proved by experiment that a hypostatic condition diagnosticated during life did not alter its location after death, under the laws of gravitation. As Piorry made his diagnosis long before death, it was evident that this condition did not result during the death-struggle. By means of these experiments *hypostasis ceased to be a condition of but little pathological significance.* If it occurred during life, then it must have an influence on life."

To quote still from Juergensen: "Does an *inflammation of the lung* actually exist? Is the term 'hypostatic pneumonia' correct? Here we must agree with Piorry, who answered this question in the negative in his nomenclature, and afterward still further confirmed this opinion." "He calls this form of disease *pneumonémie hypostatique*, and gives as a synonyme *engouement pulmonaire*" (vol. v., p. 238).

So I am sustained by Piorry, not only as regards the existence of a special disease and in the non-existence of an inflammation of the lung, but also in the use of the identical designation *engouement pulmonaire*, which may be equivalent to "engorgement of the lungs."

*Pneumonémie*, under Piorry's peculiar phraseology, it will be observed, is not to be confounded with pneumonia; it is equivalent to congestion. Juergensen, in going on to describe "*the conditions which give occasion to the rise of hypostatic infiltrations of the lungs*," makes no difficulty whatever regarding the existence of the condition, but describes its pathological anatomy, symptomatology, etc.

I need only quote the following, which may be compared with my own observations: "The *local symptoms* of hypostasis *demonstrable by physical examination* are the following: At first diminished resonance on percussion, beginning at the lower angle of the scapula, and on auscultation a lessening, sometimes almost a cessation of the respiratory murmur, which is vesicular, or may be quite indefinite in character. At the point of attack the vocal fremitus is weak. If hypostasis is complicated with a coexistent catarrh, new features foreign to the former disease will appear. Mucous râles, for example, are usually absent in simple hypostasis. The dulness on percussion and the auscultatory signs, as a rule, extend slowly from *below upward.* There is a period at which absolutely no breathing is to be heard over the consolidated portion (Piorry). Then mucous râles gradually become audible, those in the larger tubes appearing first. In case of a fatal termination extensive œdema of the lungs supervenes, accompanied by the auscultatory sign peculiar to that condition." I have not been able to confirm the supervention of œdema; certainly never got the crepitant râle, or other signs of œdema, just before death, nor at any period.

However, both of us recognized and marked out a collection of symptoms which are often found associated, but which had not previously been designated as characterizing a special diseased condition. This collection can have no other name than Engorgement of the Lungs; and all such terms as pneumonias, in any form, hyperæmias, œdemas, etc., must be rejected, as I will endeavor to show later on.

The merit of Piorry consists in his freeing hypostatic processes from the imputation—ancient and deep-grounded in all writings—of occurring only just before death; and giving it its true place as a diseased condition of variable duration, to be recognized during life. What he has done we have just read from Juergensen's paper.

If my cases of engorgement of the lungs were proved to be only forms of hypostasis, yet I also recognized them as unconnected with position, or with the death-struggle; as existing, and to be studied and treated long before dissolution. But I do not regard "engorgement of the lungs" as dependent altogether upon hypostasis, therefore my observations do not conform strictly to Piorry's.

Woillez, in his "Dictionnaire de Diagnostique médicale," Paris, 1870, citing "the diseases of the lungs which can be diagnosticated during life," does not even refer to such a disease; he includes only: Congestion, Pulmonary Apoplexy, Pneumonia, Gangrene of the Lungs, Œdema, Tubercles (Phthisis); Lardaceous Degeneration, or Amyloid; Cancer, Hydatid or other Tumors, Vesicular Emphysema, Accidental Perforation of the Organ (Pneumothorax).

I quote one passage from his rather elaborate description of "Congestion of the Lungs," to show how far removed this also is from the disease we are considering:

"*Congestion du Poumon*: 1°. *Éléments de la diagnostique*, considérée comme maladie au même titre que la bronchite franche et la pneumonie; l'hypérémie pulmonaire débute subitement par une douleur du côté de la poitrine, avec fièvre le plus souvent légère, parfois intense, une dyspnée très variable, avec *absence de toux*, ou *toux assez rare*, sèche ou suivie *d'expectoration muqueuse*, transparente, parfois un peu teintée de sang."

All he has to say under the head of Engorgement ("Engouement") is as follows: "This word is applied principally to the lungs and to the intestines. It expresses in the first case a state of inflammatory congestion still ill defined." This was in 1870.

Professor John Guitéras, late of this city, informs me that Woillez has recently (1889) written a paper on "The Acute Diseases of the Chest," published in one of the New York medical journals, with six cases of acute fatal congestion of the lungs from exposure to cold.

In view of the claims which I have ventured to make, the burden of proof is upon me to show that engorgement of the lungs as a disease, though not infrequently met with, is not described or recognized by the prominent authors in this country. One or two of these must therefore be examined.

But first, as to the literature of the subject in this country. All that we have is a paper by the present writer (which had wholly passed out of his mind) published in the *American Journal of the Medical Sciences* for October, 1869, being one section[1] of an article entitled "Certain Pathological Conditions."

It is true that the so-called "hypostatic pneumonia" has been referred to in the edition of 1886 of "Flint's Practice," by Flint, Jr., and Welch, but this is a comparatively recent publication. The existence of such a disease is regarded as problematical.

Flint writes as follows: "Passive hyperæmia occurring in the dependent portions of the lungs is called hypostatic

[1] This being brief, I insert here, as follows:

*Frequency of Serous Engorgement of the Lungs.*—I have very frequently met with a condition of the lungs which I have been in the habit of designating in my clinical teaching before students as "serous engorgement," or simply pulmonary engorgement.

The lower lobes on either side are the parts usually implicated. There is some dulness on percussion, some deep-seated respiration, with rough breathing, and at times a little crepitation. Coexisting with such a condition there is neither pneumonia, bronchitis, tuberculosis, phthisis, nor any cavity. The post-mortem examinations have repeatedly disclosed the unmixed character of the pathological state.

It is a result of neglected catarrhs, previously existing bronchitis or pneumonia in a chronic form, and sometimes the engorgement is partly hypostatic; but this term should be reserved for post-mortem changes, or those occurring just before death. I think the term used above can often be safely and properly used as a distinctive one, marking a substantive condition. The term "congestion" should be applied only to active determination of blood to the lungs, as in apoplexy, etc. In "serous engorgement" there is often a large amount of serous fluid mixed with air, which escapes on cutting into the lungs, and the dulness is not absolute when the patient is examined before death, as the lung tissue is still partly permeable to air.

This serous engorgement often also accompanies tuberculosis of the lungs, as, for example, when cavities or granular tubercular matter is found in the upper portion of the organs, the lower and more dependent portions are simply engorged with serum, and furnish corresponding auscultatory and percussional signs. But the morbid alterations referred to as existing at the base or more dependent portions of the lungs are not "tubercular infiltrations," which almost always have their seat under the clavicles.

If "serous engorgement" is one and the same with "œdema," then it exists much more frequently than the books would teach us to believe it does, and Laennec was wrong in stating that the crepitant râle characterized three conditions, namely: The forming stage of pneumonia, the congested tissues around a hemorrhagic spot, and œdema (in which he is correct as far as my experience goes), for in the serous engorgement described above the crepitant râle is rarely if ever heard. In true "œdema" of the lungs consequent upon measles, the crepitant râle is heard over the entire region of the chest.

congestion. The conditions which favor the production of hypostatic congestion are enfeebled heart's action and the maintenance of the body in one position for a long time. It is met with in acute infectious diseases, in the aged, and in the course of chronic diseases which occasion general debility. The higher grades of hypostatic congestion result in a transudation of bloody serum. The condition of lung thus produced has been called splenization. . . ."

Now, our cases are not pneumonias—there is no true splenization, they did not necessarily depend upon acute infectious diseases, did not exist in the aged; the term congestion is not applicable, as I have shown, nor were they dependent upon debility, as before stated. References also to these points have apparently only been made in editions of recent years.

Professor S. C. Chew has an able paper, written in his usual style of excellence, in vol. iii. of Pepper's "System of Medicine," entitled "Congestion and Œdema of the Lungs (Hypostatic Pneumonia)." What is said below will include all the arguments I have to offer in the effort to show that he also does not include Engorgement of the Lungs in the subject-matters treated by him, and I refrain from a minute analysis only on account of want of space.

The work on "Practice," third edition, 1885, by so deservedly conspicuous an authority as Dr. Loomis, must also be examined; but having the greatest respect for his character, ability, and experience, I write in no undue critical or controversial spirit. The terms "engorgement," or "serous engorgement," are nowhere found, either in the index or in the body of the work; nor is there any other disease referred to by him which can be confounded with "engorgement of the lungs," as I will endeavor to show by a careful analysis.

The nearest approach thereto will be discovered in the section entitled "Hyperæmia of the Lungs," which is divided by Loomis into "Active Hyperæmia, or Fluxion, and Passive Hyperæmia, or Pulmonary Congestion."

With the first, active hyperæmia, our disease, "engorgement of the lungs," will not be confounded. The second, passive hyperæmia, embraces a subdivision, viz., hypostatic congestion, which somewhat resembles "serous engorgement," but if the diagnostic differences are closely scanned, the incompatibilities can readily be exposed. In justice to the author we quote as follows (p. 113):

"*Passive hyperæmia* or *pulmonary congestion* depends upon an obstruction to the return circulation. It occurs with varying appearances and anatomical characteristics that have led to its subdivision into *splenization*, *brown induration*, and *hypostatic congestion*. A form of *active* hyperæmia has, because of its physiological cause and situation, been called *compensatory hyperæmia*. Other divisions are sometimes made, but all the varieties can probably be classified under these heads."

I have explained elsewhere why "engorgement of the lungs" cannot be confounded with *splenization*, with *hypostatic*, or any other active *congestion;* still less is it possible to confound it with "brown induration," or "compensatory hyperæmia"—this will be admitted without hesitation by everyone. But I must recur to "hypostatic congestion." This, unless in a modern and changed sense of the term—and Loomis fails to say that views have changed with regard to it—is not to be confounded, as I explained, with "engorgement of the lungs;" unless it is assented to that hypostatic congestion (laying aside for the present any objection to the term congestion) is not necessarily associated with the position of the body or with post-mortem changes, as Piorry's researches have proven. It is still a grave misnomer to apply the term hypostatic to a disease where there is no necessary hypostasis. If the characteristics are abandoned which make it a case of hypostasis, then we had better change the name for one more appropriate, and call the disease engorgement of the lungs, which is far the most applicable, as it is descriptive of the true condition. But, finally, our "engorgement of the lungs" is not *hypostatic congestion!* and Piorry himself called his hypostatic congestion "*engouement pulmonaire.*" He encountered the same diseased condition that I did, and the difficulty was met in each case by the application of analogous terms.

Let us see what the learned author (Loomis) says of "hypostatic congestion"—I quote *verbatim et literatim:* "*Hypostatic* congestion is a term applied to that form of hyperæmia which occurs in the most dependent parts of the lungs; it is usually bilateral in those dying of diseases which have confined them to bed for a long time. It very closely resembles splenization, but the lung-tissue is very friable instead of doughy, and the little whitish or reddish points which are seen in splenization are absent in hypostatic congestion. The lung-texture itself is but little altered. Low forms of pneumonia are liable to occur in hypostatic congested parts of the lung, and hence some call it 'hypostatic pneumonia,' and others again call it splenification (differing from the above described splenization)."

Our disease has nothing to do primarily or essentially with hypostasis, nothing to do with being "confined in bed for a long time;" there is also no splenification; it has nothing to do with any form of pneumonia. The crepitant râle, fever, or rusty-colored sputa—one or more—should be essential to every morbid state to which the term pneumonia is applied. I have repeatedly stated that none of these symptoms characterize engorgement of the lungs. Besides, the description by the able pathologist quoted above is entirely too inadequate; there is not enough relating to the morbid anatomy, symptomatology, etc., of hypostatic congestion to prove that it agrees with "engorgement of the lungs," and hence that the latter is no new disease.

As I have satisfactorily disposed of the subdivisions of "passive hyperæmia," I might well be dispensed from considering the characteristics of passive hyperæmia itself. But I will state that this is not to be confounded with "engorgement of the lungs." Loomis gives some of the characteristics of passive hyperæmia by which the identity of the two will be proven to be irreconcilable. For example, he does not mention serum as exuding, but only "dark blood;" "bronchial tubes and pleura show *post-mortem staining*." "Engorgement of the lungs" has nothing to do necessarily with post-mortem staining; it is not dependent upon the position of the body—for a long or a short period; or upon the accidencies of dissolution—upon recumbency or decubitus; it bears no relation whatever to death or the death-struggle—it has, indeed, existed for weeks or months before death.

In "engorgement of the lungs" there is serum and blood mixed—so the term *hyperæmia*, also, would, for this reason, not be comprehensive enough.

Here are some cogent additional reasons: Dr. Loomis, in speaking also of the different varieties of pulmonary hyperæmia (p. 115), says, "blood-stained, watery expectoration is the prominent objective symptom of pulmonary congestion. The advent of *active* hyperæmia is usually very sudden."

I have already shown that "engorgement of the lungs" is not congestion; and also that it is never active and sudden in its onset—as is congestion. In "engorgement of the lungs" "watery expectoration is not a prominent symptom." In fact it does not exist in cases of engorgement of the lungs.

Dr. Loomis again repeats (p. 116) that the "diagnosis of pulmonary congestion is not difficult if one considers the circumstances under which it occurs, and the two prominent symptoms, viz., the dyspnœa and the copious, watery, blood-stained expectoration." He also says that "œdema" is characterized by "blood-stained sputum" (p. 116).

These admissions by a pathologist of great experience settle the question that neither of these diseases is synonymous with "engorgement of the lungs," in that blood-stained sputum has not been seen by myself in the latter,

nor referred to in the statement of the pathology of the diseased condition with which the researches of my old master, Piorry, have been so promiently associated.

*Résumé.*—The pathological condition referred to should be best designated and known as *Engorgement of the Lungs;*

Because, 1st, *Engorgement of the lungs* may include *blood and serum*, both being invariably present.

2d. Term "*hypostatic*" objectionable; because condition does not depend on hypostasis.

3d. "*Congestion*" objectionable; because congestion is an acute condition (see body of paper).

4th. "*Hyperæmia*" objectionable; because it necessitates the presence of blood, and does not include serum, which is always present.

5th. "*Pneumonia*," or "*pneumonic*," objectionable; because the crepitant râle, fever, rusty-colored sputa, bronchial respiration, and hepatization, are all *absent*.

6th. "*Œdema*" objectionable; because "in œdema the expectoration is always frothy and watery in character and abundant" (Loomis), and there is dyspnœa. These do not occur in engorgement of the lungs, and in the latter there is, also, no blueness of lips, lividity, cold extremities, etc., as are found in extreme cases of œdema.

*Illustrative Cases.*—During the past year the following (which was a tolerably fair specimen, but the records are meagre) occurred during my attendance upon the Marine Hospital wards:

Case I.—E. O——, white, aged thirty, admitted August 7, 1888, with a diagnosis of bronchitis. Evening temperature, 100° F.; morning, 98⅘° F. His condition was as follows: Dulness over front of right lung; left lung resonant; no râles; vocal resonance almost amounting to pectoriloquy in the right lung posteriorly, above the scapula. No indication of phthisis, fibroid phthisis, bronchitis, or pleurisy.

*Diagnosis.*—"Engorgement of the lungs."

*Note.*—Similar symptoms naturally occurred in a man who died from drowning a few days previously.

August 11th.—Revulsives were employed; much less dulness observed at the base of right lung anteriorly and posteriorly; temperature ranges from 97° to 101° F. From physicians present, when invited to express their opinions based on a consideration of the symptoms, the replies varied, as follows: "Incipient phthisis," "Catarrhal pneumonia," "Hypostatic congestion," "Œdema," etc.

There had been no evidence of catarrhal symptoms or pneumonia, no crepitant râles, rusty-colored sputa, etc. Hypostatic congestion was the closest approach; but this, as we then interpreted it here, is a condition characterizing the very latest ante-mortem state, results from a protracted recumbency upon the back, occurs in the aged or when the powers of life are enfeebled. It was not congestion of the lungs, for attacks of this are sudden and violent, and there is active hyperæmia.

The next case is extracted *verbatim* from my notes, under the date 1879, and therein entitled "serous engorgement," which term was used here as synonymous with "engorgement of the lungs."

Case II.—Woman, colored, aged fifty, entered hospital October 5, 1879. Complained of some derangement of chest and stomach; no active disturbance of stomach; enlarged liver, which was hard; no fever or dyspnœa; cough, but no expectoration; dulness over heart; resonance over apices of both lungs, but at back of right and left lung partial dulness, with subcrepitant râles, especially in right lung; dulness more marked at inferior margin of lungs.

*Diagnosis.*—"Serous engorgement;" possibly water in pericardium, but no pleuritis.

Death occurred rather suddenly—subject complaining of oppression of the chest; pulse normal. All the post-mortem phenomena corresponded with the diagnosis.

*Autopsy.*—Above thoroughly sustained, as follows: Fluid in pericardium; liver large, hard, thickened; spleen medium size. Right lung engorged, and poured out serum when cut; dilatation of right ventricle and general enlargement of the heart, no special valvular disease; veins of right side of the neck enlarged—the jugular was more than an inch in diameter.

*Note*, 1879.—I make a distinction between "engorgement," congestion, and also œdema—the justness of which this case confirmed. Drs. Rhett, Andrews, and Wanamaker, house physicians, were present.

Case III.—A. K——, colored, aged twenty-five, admitted May 22, 1889. Had had pneumonia; base of both lungs dull anteriorly and posteriorly; no swelling, no râles.

May 23d.—Same condition as on previous day; no fever, no râles; base of both lungs dull, but not absolutely, as would be if there was water on the chest; no pleurisy, no bronchitis.

May 28th.—Examined. No fever; back of both lungs dull, dulness also extending in front; respiration not quickened; no râles, cough, or pleurisy. So:

*Diagnosis.*—Engorgement of lungs.

This case presented also a rare example, which I have recently seen repeated, of greatly diminished respiration, without quick breathing. Entered hospital with a diagnosis of "pneumonia of right lower lobe." If so, the pneumonia is well, and is followed by serous engorgement.

Case IV.—E. J——, admitted February 14, 1877, aged twenty-two. Had spitting of blood; no dulness under either clavicle, and anterior portions of both sides of chest resonant, respiration loud. Puerile respiration at back of left lung; percussion dulness over back of right lung, extending to diaphragm and liver, and absence of respiration; subcrepitant râles posteriorly.

*Diagnosis.*—Serous engorgement of right lung; spleen somewhat enlarged; respiration not quickened; pulse 120; temperature, 100° F. Ordered, ℞. Calomel, gr. ½; digitalis, gr. j.; ipecac, gr. ¼; squill, gr. ij. in each pill. One t.i.d.; chest to be rubbed with iodine and mercurial ointment (U. S. D.), and cod-liver oil and whiskey, on account of weakness.

February 25th.—Still weak. Subcrepitant râles very evident over right lung, with dulness—the serous engorgement involves whole of right lung. Dulness exists still at back of right lung also—not so marked as formerly, and crepitation on inspiration also diminished. Applied emplast. cantharides, 4 by 5, back of right lung.

Died April 3, 1877.

Case V.—P. B——, admitted 1888. Engorgement of lungs (or hypostatic congestion); had been in bed for three weeks on his back; no râles, partial dulness; all signs of hypostatic engorgement, viz., impaired respiration, posterior portion of lower lobe of lungs, mostly base and centre, dull.

Left hospital September 24th completely well. Took stimulants, milk diet, etc. In the above case "hypostatic congestion" and "engorgement of the lungs" are convertible terms.

Case VI.—P. M——, colored, aged sixty; admitted September 7, 1888, with a diagnosis of "chronic gastritis and malaria with anæmia."

September 8th.—Examined. Physical signs: Dulness on right side of chest, anteriorly, extending up to fifth intercostal space, and to about the seventh posteriorly; respiration in this region not good; left lung healthy; heart-sounds normal, but somewhat labored.

A tumor, about four inches in diameter and hard to the touch, found in the region of the stomach, just below the ensiform cartilage; no pulsations, but with considerable constriction of the abdominal walls just above the umbilicus—supposed cancer of stomach! Patient, about eight to ten hours after meals, vomits a considerable quantity of partially digested blood, or black vomit; pain considerable in the region of the tumor, which had been observed for one month past; patient anæmic. Dulness

and impaired respiration extend to the rear of the right lung; probably "engorgement of the lung."

Two cases may be added; one of "acute engorgement of the lungs," with recovery, and one, for comparison, an example of acute *congestion* of the lungs, with an autopsy.

CASE VII. *Acute Engorgement of the Lungs* (from notes, 1886).—D. G——, white, aged eight; suffered apparently from acute engorgement of the lungs, without crepitant râles; rusty-colored sputa, etc.; a "click" and dulness were present at the back of the right lung, middle region. Recovery took place after eight days' treatment. Temperature 101° to 102° F.; on the fifth day it was 103° F., even after using the following mixture: ℞. Sirup of squills, ipecac, and soda with nitre. This combination failed. Then the following: ℞. Calomel, gr. ¼; Dover's powder, gr. ½; soda, gr. j. Six powders, each containing the above. S.: One every three or four hours. Did not resolve the inflammation. Then local applications of mustard, followed by a thapsia plaster, with flaxseed tea as a drink. As fever became higher, employed, successively: ℞. Muriate of ammonia, 3 j.; carb. of ammonia, 3 j.; acetate of potash, 3 ij.; tinct. aconite, gtt. xx.; tinct. sanguinaria, 3 iij.; fluid extr. licorice, 3 ij.; water to ℥ iv. S.: Teaspoonful every two hours. Gave also a stimulating diaphoretic tea, made with senega and serpentaria, t.i.d.

Before the last mentioned was given, had used also, ineffectually, the following sedative and relaxant expectorant: ℞. Wine of antimony, 3 iij.; sirup. squills, sirup senega, āā, ℥ ss.; tinct. digitalis, 3 j.; sirup wild cherry bark, ℥ j.; tinct. lobelia, 3 iij.; water to ℥ iv. S.: Teaspoonful, t.i.d., and oftener if cough is troublesome.

He never had much expectoration, but his cough was troublesome, with constant fever; no pain; pulse, always 120, and respiration, 28. Under the aconite mixture, which is an excellent combination for pneumonic (?) engorgement, the temperature went down to 97° F. To-day, March 16th, sitting up; temperature, 98½° F. On the fifth day I used an oil-silk jacket over his flannel; the latter was wet with perspiration every night, and was changed.

It is instructive to compare a case like the above with our cases of "engorgement of the lungs." In the latter, which is not acute, there is no such high temperature. The absence of the crepitant râle, rusty-colored sputa, etc., in the above case, make its relations to pneumonia doubtful. Therefore I consider it a case of acute engorgement—not congestion, not pneumonia.

CASE VIII. *Congestion of Lungs; with an Autopsy* (from notes, December 5, 1880).—This case is introduced for comparison with cases of "engorgement of the lungs" and to show the acute nature and rapid invasion of congestion.

S. A.——, white, aged twenty-five, entered City Hospital, July 3, 1880, two days before death. Not very ill, apparently; said to have intermittent fever, and that on the previous night fever was very high. I could not ascertain that he had any congestive chills, or any prominent symptoms, after close inquiry from nurses and those lying near him.

When I saw him, July 4th, at 9 A.M., his respiration was slow and oppressed, and gradually becoming more so. He died in ten minutes after, though his pulse was not feeble—explained by the fact that death was caused by an apoplectic invasion of the lungs, while the heart was less involved.

*Autopsy*, July 5th. The cavities of the heart contained some blood; the pericardial sac held much bloody serum; much blood free in cavity of the thorax—a quart or more; both lungs hepatized or black with blood; *blood* was pouring from his nose at the autopsy (there had been white froth upon his lips at death, in striking contrast with his dark face). The spleen was soft and friable—not large, four by five inches; liver enlarged.

This man had not been severely purged (colliquative diarrhœa, whether natural or artificial, being, in my opinion, a frequent cause of congestive chills from diminished power of reaction which they give rise to). He must have died after brief sickness of *congestion* of the lungs—this being the most decided post-mortem confirmation of such a diagnosis I have ever seen. Have never seen so bloody a lungs and thorax; the structure of the heart also seemed softened and infiltrated with blood.

I cannot discover that this man had been purged before or after his admission. It is stated by the house physician that his fever had been very high the previous evening; no testimony showing the existence of any cold, chills, or excessive sweating. I regard diarrhœa, and *high temperature*, which liquefies the blood, as the dangerous symptoms. He had had ten grains or more of quinine, given him t.i.d. since his entrance into hospital.

## JABORANDI AND PILOCARPINE IN BRIGHT'S DISEASE.

BY P. R. EGAN,

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THE leaves of Pilocarpus pinnatus have been used to produce sudorific effects for centuries. The alkaloid has been before the profession for the last twelve years. Nevertheless, the truth of a recent statement will be readily admitted. Willoughby says (*The Lancet*, May 25, 1889): "There are few drugs of which the physiological action is so direct and palpable, but of which the therapeutic uses are so undetermined."

In the discussion which followed the reading of Dr. C. S. Wood's paper on "Some Points in the Treatment of Chronic Albuminuria, or Bright's Disease" (THE MEDICAL RECORD, March 24, 1888), pilocarpine was mentioned by but one speaker. Dr. Page's faith in the drug was not of a very exalted nature. "Pilocarpine," he added, "has been recommended for the purpose of eliminating this so-called uræmic poison. The chief objections to this remedy are its depressing effect upon the heart, and sometimes it causes such a profuse salivary secretion that the patient almost strangles." So, too, Heither, of Vienna: "He had never seen any good result follow the use of pilocarpine in renal disease after ascites had once set in. He admitted that it produced its physiological effects of increased perspiration and urination, but believed these to be purely temporary, and to have no beneficial result; whereas the depression consequent upon the use of the drug was not seldom alarming."

Before the New York Academy of Medicine (*Birmingham Review*) Dr. Francis Delafield brought forward a paper on the "Treatment of Acute and Subacute Nephritis" (THE MEDICAL RECORD, March 23, 1889). It was discussed by seven representative physicians of that great medical centre. But one referred to the use of pilocarpine—in truth, the remedy was almost ignored.

On the other hand, the general consensus of recent authorities on materia medica is that expressed by Stillé ("National Dispensatory"): "When dropsy arises in connection with desquamative tubular nephritis (especially scarlatinous), or even with interstitial nephritis, the medicine is very efficient; in the former case often leading to a cure, in the latter to a prolongation of life.

From Professor Wagner's clinic at Buda-Pesth comes the following: "When used according to the above-mentioned principles (*quod vide*), pilocarpine will be found in most cases of Bright's disease, even when hot baths and other diaphoretics prove useless, always to diminish dropsy to such an extent that the patient is more or less protected against dangerous uræmic suffocative attacks. In this way it may be possible to obtain a relative cure; that is, in secondary granular contracted kidney" (*British Medical Journal*).

In *The Lancet* for December 22, 1888, J. G. Marshall, B.A., M.B. Cantab., writes: "The value of jaborandi and its derivatives in the treatment of the dropsy of Bright's disease cannot be overestimated. By its use I have re-

lieved in several cases some of the most distressing features of this complication, and prolonged or rendered less painful the termination of life in others, but in none has the drug been exhibited with such satisfactory results as in the following case." Mr. Marshall then details the history of a fisherman, aged nineteen, who contracted Bright's disease, for which he was unsuccessfully treated at home and in hospital. When he again saw him "his face was livid, and the swollen condition of the cellular tissue of his neck made it almost as broad as his shoulders. He coughed incessantly; there was copious intra-thoracic effusion, and the subcutaneous tissue all over the chest was 'doughy' to the touch. His abdomen was as big as a barrel, and there was extensive œdema of the genitals. His legs and thighs were enormously swollen, and water was exuding from them. He was passing a small quantity of urine, which was of a dirty color and loaded with albumen." Mr. Marshall treated him with hypodermic injections of one-fourth of a grain of pilocarpine hydrochlorate. In a fortnight he was relieved of his dropsy, and passing his usual quantity of urine, which still contained some albumen. Mr. Marshall adds: "I think the almost miraculous improvement which followed the use of the pilocarpine is worthy of recording, and (when one considers the usual helplessness of a condition such as I have described in a patient of this age, and from such a cause) that jaborandi and its alkaloids must occupy the first place among therapeutic agents in the treatment of cases of this kind."

Although we may not agree with the statement of a recent authority that in puerperal eclampsia "nephritis is usually, if not always, present" (B. Holmes: *Medical News*, September 14, 1889), still it is sufficiently akin to acute and subacute Bright's disease to merit our consideration. Here, too, the same ambiguity prevails. The London Obstetrical Society cordially indorsed the opinion of Dr. John Phillips, that "although good effects were produced in twenty-eight cases, yet in nine such dangerous symptoms manifested themselves that he was bound to warn others against its use, especially when coma was pronounced" (*The Lancet*, October 13, 1888).

On the other hand, *The Lancet* for 1885 and 1886 contains an account by Dr. Horrocks, of Guy's Hospital, of two very severe cases treated successfully by the injection of one-third of a grain of pilocarpine, repeated to obtain its physiological effects. Cessation of convulsions almost immediately followed the use of the injection; the os rapidly dilated, and the children were quickly expelled, but did not survive. The maternal mortality is generally thirty per cent. A recent writer, however, gives twenty-three cases and no death (THE MEDICAL RECORD, September 7, 1889). *The Lancet* for 1886 also contains an account of five cases equally happily treated by Dr. Murphy, with similar injections of pilocarpine. One case so treated by him had thirty-three convulsions in the seventh month of pregnancy, but was afterward successfully delivered at term of a living child.

The writer desires to add two cases to the contribution of Mr. Marshall—one almost similar to his, but in which the result obtained by the use of jaborandi was better; the other a well-marked case of acute Bright's disease, with total loss of vision, which was restored in one hour and a half by the use of pilocarpine. Jaborandi and pilocarpine would seem to be especially indicated in all forms of Bright's disease. Its sudorific effect promptly eliminates the poison pent up in the system. Its well-known power of relaxing nervous tension in status epilepticus and kindred conditions (S. B. Lyon, *Journal of Nervous and Mental Diseases*, April, 1889; Willoughby, *ut supra*) is of the greatest service when eclampsia is threatened, or convulsions have already taken place. In a five years' experience (1882 to 1887) with jaborandi and pilocarpine in large doses, we have never seen, among non-debilitated subjects, any worse results than emesis, which at one time or another has attended almost every drug we have used. In Case I., instead of increasing the œdema of the lungs, as it is said to do, it relieved it after other remedies had failed.

CASE I.—J. R——, colored, aged twenty-four. Was seen on April 27, 1885, when he gave the following account of himself: About three months ago he began to swell in his legs and abdomen. Found that he could not easily button his "pants." Says he has never had any venereal disease, but has been a hard drinker. That two nights since, while camping in the valley, with insufficient covering, he suffered very much from cold. That he then began to cough, and rapidly to swell up.

Has anasarca of legs and body as high as his neck. His genitals and abdomen are very much swollen. A percussion wave cannot be obtained, but there is dulness on the flanks, changing with change of position. His heart is normal, but beats rapidly—120 per minute. Over his lungs are heard sibilant râles, and fine crepitation, but no dulness. He coughs almost constantly, and ejects mouthfuls of serous fluid. Says he has passed scarcely any urine during the last two days. A sample obtained is very dark colored, and became almost solid on heating. Under the microscope it was found to contain blood-corpuscles and granular casts. There were no nervous symptoms. Suffers from constipation. He was given pulvis purgans, acetate of potash in infusion of buchu and digitalis, and Stokes' mixture for cough. He passed about twenty ounces of urine each day, until May 1st. The albumen was slightly diminished, but otherwise there was no change. He was then given, morning and evening, ext. jaborandi, fl. ʒ j.; aq. menth. pip. ʒ j. Sig: To be taken at a dose; repeat in one hour if sweating is not produced. This dose produced its physiological effect without causing emesis. Pulvis purgans and Stokes' mixture also continued.

Next day there was a slight improvement.

On May 5th the following note was entered: Much better. Only few crepitant râles over lower part of chest. Œdema only noticeable over sternum. Passed thirty-four ounces of urine of light color; sp. gr., 1.015. No albumen or casts. On the following day it was noted—swelling gone from over chest. His recovery was uninterrupted. Ten days later he was given Basham's mixture alone, and in the first days of July he resumed his ordinary occupation. Seven months afterward, when last seen by me, he was found to be slim, wiry, and in excellent health. There had never been any return of his œdema, and albumen had not been detected after May 5th.

CASE II.—M. G——, aged twenty-eight. Was seen December 24, 1888. He had been suffering from sore throat for two days prior to seeking medical aid. Tonsils very much swollen and filling almost the entire pharynx. There is marked difficulty in swallowing, and some slight fever present. He was treated by ammoniated tincture of guaiac, aconite, and steam inhalations. On December 30th an abscess of the right tonsil was evacuated, all medicine discontinued, and a gargle of boric acid in hot water directed. He progressed favorably until January 10, 1889. On the morning of that date he complained of severe headache, and his face appeared swollen. This was thought to be due to a severe cold. During the forenoon he vomited twice—the vomited matters being bile-stained. About mid-day he fell into a sleep which lasted a couple of hours. At 3 P.M. he was assisted to the chamber, and then discovered that he was unable to see. He wanted to be told whether it was night or day. On my arrival I found him talking incoherently His legs and face were sufficiently swollen to leave a slight depression when firm pressure had been applied. His headache was very severe, and he was unable to distinguish daylight. A small quantity of urine obtained at the time gave a deposit equal to about two-thirds of its volume. He was given one drop of croton-oil in glycerine, but this was soon rejected. A rectal injection of one drachm of glycerine, repeated in twenty minutes, produced a slight watery evacuation. A hypodermic injection of one-sixth of a grain of pilocarpine hydrochlorate produced a free perspiration,

beginning ten minutes after its administration and lasting nearly an hour. In one hour and a half he could distinguish the faces of those around him, and at 7 P.M. he could distinguish a light about one hundred yards away. His urine under the microscope was found to contain granular tube-casts. The pilocarpine was again injected at 8 P.M. and produced a free perspiration.

January 11th.—Passed a small quantity of water twice during the night. Vomited twice. Swelling has gone from the face and almost wholly from the lower limbs. Can see everything about him, but distant objects seem misty. Passed twenty ounces of urine, containing about one-third albumen and some casts, during the last twenty-four hours. Was given one drop of croton-oil in glycerine, which acted freely. Pilocarpine injected night and morning. His recovery, from this point, was uneventful. He was given the pilocarpine night and morning until January 13th, when he passed thirty ounces of urine containing no albumen or casts, and having a specific gravity of 1.022. It was then injected once a day until January 15th, when he passed fifty ounces of normal urine. The swelling had all disappeared, and he expressed himself as feeling quite well. Seven months afterward I learned that he successfully passed the physical examination required for one of the government services.

*Remarks.*—From the symptoms, but more especially from the history of Case I., a diagnosis of chronic parenchymatous nephritis was arrived at. Mentally a fatal prognosis was registered. It appeared wholly similar to several acute exacerbations in chronic Bright's disease, observed while interne to a large hospital, and in which every remedy save jaborandi was known to have been unsuccessfully used. Imagine our surprise at the result of the treatment.

The Philadelphia *Medical News* for December 5, 1885, contains a *résumé* of a paper by Dr. Flint on "The Elements of Prognosis in Bright's Disease." (I am indebted to the kindness of Assistant Surgeon Ogden Rafferty, U.S.A., for copying and forwarding this article at my request.) He considered that, as a rule, acute and subacute Bright's disease does not tend to become chronic. That chronic Bright's disease may remain latent for a long time, which fact he considered of great importance. In view of these opinions the questions arose:

1. Can a case of subacute Bright's disease have a gradual onset lasting for three months?

2. Can a case of chronic Bright's disease remain latent for seven months?

To solve these interesting problems an attempt was made to learn the after-history of this patient, but unfortunately without success. However, relying on the well-known incompetency of the average member of the colored race to observe or define his symptoms, the case is deemed to have been one of subacute Bright's.

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FAT IN THE FÆCES OF DYSPEPTIC CHILDREN.—Dr. Tschernow, of Moscow, has published his analyses of the fæces of dyspeptic infants, which he found to differ both physically and chemically from the fæces of healthy infants. Dyspeptic fæces contain eighty-five per cent. water and fifteen per cent. solids, and nitrogenous, fatty, and inorganic salts. The solids of normal fæces consist of from twenty-five to thirty per cent. fat, thirty to thirty-two per cent. albuminous matter, ten per cent. salts, and twenty-eight per cent. carbohydrates; while the solids of dyspeptic fæces contain forty-five to sixty per cent. fat, and fourteen to twenty-five per cent. albuminous matter. The carbohydrates do not differ very much. In dyspeptic fæces fat increases at the expense of albuminous matters. This proportion was observed alike in children at the breast and in those fed on artificial food. All dyspeptic fæces contain, as above mentioned, more fat than normal fæces, and the quantity of fat does not depend on the degree of indigestion. Dr. Tschernow concludes from these results that Demme's and Biedert's so-called "fatty diarrhœa" was simple dyspepsia.—*The Lancet.*

## LEGAL MATTERS OF INTEREST TO THE PHYSICIAN.

BY HENRY A. RILEY, ESQ.,

NEW YORK.

THERE are some accident policies which do not seem to insure against accidents. Here is one of them, as found in a New York case where the Preferred Mutual Accident Association was defendant. The policy stated that payments would be made to a member injured through "external, violent, and accidental means," provided said member shall "sustain bodily injuries by means as aforesaid which shall, independently of all other causes, immediately and wholly disable and prevent him from the prosecution of any and every kind of business pertaining to the occupation under which he receives membership." The insured was a retired gentleman having no occupation, who injured himself while operating a buzz-saw at the shop of a wagon manufacturing company of which he was a stockholder and director. As a result of the injury he was obliged to carry his arm in a sling, and was deprived of its use to some extent for several months. Under these circumstances the company refused to pay the policy, and in a lawsuit the court declared they need not pay it.

Two reasons were given for this adverse decision. The first was that the accident did not prevent his carrying on the business of a "retired gentleman," and the reasoning will make most retired gentlemen wish they were something else, provided their dependence is placed upon a recovery under an accident policy. The court said: "Can it be said that a man with his hand in a sling, and suffering a degree of discomfort from a painful wound in that member, is wholly disabled and prevented from the prosecution of every kind of business pertaining to the condition of a retired gentleman? The question is one which does not seem to admit of much discussion, but it would be easy to suggest many duties and even pleasures, pertaining to the domestic, social, and business relations of a retired gentleman, from which he would not be wholly debarred by a disabled hand. He might still, it would seem, keep an eye upon his investments, collect and disburse or reinvest his income, attend the meetings of the boards of directors of which he was a member, superintend repairs and improvements upon his property, and generally devote considerable attention to the care of himself, his family, and his estate." The "retired gentleman" must have, however, it appears, no accidents, for he cannot be protected against them, unless the disability is so entire that he could not even advise about his property. The second reason given by the court is that operating a buzz-saw is not the ordinary occupation of a "retired gentleman," and that if he voluntarily placed himself in such a position that he might come in contact with its rapidly revolving periphery, he had only himself to thank for any injury that might follow. He could not share his sufferings and sorrows with the insurance company. The policy, it seems, only permits a loss to the company when the injury is incurred in carrying on the ordinary occupation of a person. But as a "retired gentleman" has no very accurately defined occupation, it is difficult to see how there could ever be a loss which the company would pay. Possibly, if the "retired gentleman" were injured in some remarkable manner by the scissors with which he was cutting off his coupons, he might be able to recover; but if he were run over while passing along the streets he might be unable to get a cent, for how is it part of the occupation of a retired gentleman to be on the streets at all? Such refinements as these seem highly absurd, and if a person can get no protection from accident policies under like, or even somewhat different, circumstances, it would be well to let the accident companies alone.

How, indeed, can a railroad accident have anything to do with the occupation of a dry-goods clerk? Is not his occupation continually behind the counter, and what business has he ever to go on a railroad train? We wonder

how accident insurance companies can get business if they hedge themselves in from any possible loss by such conditions. The Indiana Supreme Court holds that shaving on Sunday is not a work of necessity, and is therefore illegal when performed for pecuniary compensation. This was the decision in Indiana fifty years ago, and the court holds that the reasoning and the conditions of life are the same now as then.

What constitutes necessity is well stated as follows: "The law contemplates that the community has a general need that all should rest on Sunday. Most of the affairs and doings of week-days are less important than this need of a rest-day, but some few are superior. To keep the body physically sustained by food; to provide the facilities for worship during some hours of the day, and for restful mental occupation during others; to nurse and heal the sick; to provide prompt burial for the dead; these and some other objects are superior to the need of general repose. Necessary work includes all that is indispensable to be done on Sunday in order to secure the attainment of whatever is more important to the community than its day of rest."

The law of nuisance has been invoked many times to prevent an exceeding variety of acts, sounds, or smells, and every little while some new word is added to the long catalogue of nuisances actual or alleged. Some which have occupied the attention of the courts are steam whistles, squealing of pigs, bleating of sheep, singing, ringing of bells, playing of pianos, hand-organs, and brass bands, tenpins, trundling of baby carriages, beating of drums, blowing of fifes, hammering of anvils, children at school, etc.

One of the latest cases, and one of the most curious, is found in the English courts, and the object was to prevent a gentleman who was suffering from softening of the brain, and who was a rather noisy invalid, from living next door to a boarding-house.

The court decided, however, that noisy invalids require attention and must have some place of shelter or home. It was said by the judge: "I have not been able to discover any precedent which is precisely applicable to the state of things presented by this case. Sick people must live somewhere, even if they make a noise. When we consider how the great majority of people in this country have to live, and in what houses, it would be absurd to hold that a man or woman who had a painful wound, and who screamed when it was dressed, or that a hysterical woman, or a person subject to fits during which he makes a noise, was only to live in an isolated house, or one the walls of which are of a certain thickness." There are some noises we must put up with, such as the playing of a neighbor's piano, or the noise of children in the nursery, and now it would seem that sick persons in a neighbor's house must be added to the list.

Physicians do more travelling in carriages than almost any class of persons, and they are therefore interested in many cases of damages for street runaways, and accidents occurring through excavations on the highway.

In a recent case in West Virginia, a horse driven by a physician fell into a hole near the travelled track of the street, and the question was whether the city of Huntington was liable in damages, the hole being unprotected and not marked.

The evidence was quite conflicting, but the vital part was contained in the physician's own testimony. He said "that he turned short in Third Avenue, and drove across the sidewalk for the purpose of hitching horse and buggy to the fence on a lot by the side of the house he was going to, which fence was outside the line of the street, and some thirty feet from the north line of the street, and he knew he was driving toward the fence." The court held that the point was whether Dr. Beardsley was in the street which the authorities were under obligation to protect, or had left it for his own convenience and without necessity. The jury in the first instance decided in favor of the doctor, but the appellate court reversed this decision and held that he must bear his own loss.

## THE PROPOSED NEW LUNACY LAW.

By FREDERICK PETERSON, M.D.,

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THIS lunacy bill, drafted under the advice and direction of a committee of the National Conference of Charities, the chairman of which was Dr. Stephen Smith, ex-commissioner in lunacy of New York State, was introduced into the Legislature at Albany last winter by Mr. Gallup. It passed both the Assembly and the Senate, and would have become a law had not the Governor failed to affix his signature to it. As the same bill is to be reintroduced at the coming session, it is well that medical men in general should become acquainted with its more important features.

There is much to reform, much to improve, in existing lunacy laws, and most of the provisions of this bill are so excellent and admirable that it is to be hoped they will be favorably acted upon within the year.

The method of commitment of the insane to institutions contemplated by this bill is the only portion upon which there can be any discussion as to its advisability, and that point will be last considered in this article.

The really invaluable features of the new measure are, in brief, as follows:

*Removal to Asylum.*—It is provided that attendants of the same sex as the patient shall accompany the insane person to the institution. This applies more particularly, of course, to cases upon public charge. Under the present system, it has been my misfortune to see many a female patient brought to the asylum by one or more half-drunken deputized officials.

*Voluntary Patients.*—It is not uncommon for an insane person, cognizant of his mental condition, to desire to enter an asylum voluntarily. Under existing laws he cannot do so without recourse to the usual two medical certificates approved by a judge; and although easy to get in in this way, there may be difficulty in getting out. The new bill provides for the admission of such a case upon his written application, together with a corroborative certificate of his family physician; and he can leave the asylum at any time upon giving six days' written notice to the asylum superintendent, and two days' notice to the family physician who recommended his voluntary commitment.

*Emergency Cases.*—Patients requiring immediate care and protection can be received by institutions for three days without procedure of any kind by provision of the new bill. The evil that has resulted from the lack of such provision in our present laws is well known to asylum physicians and to those who have had to do with the commitment of suicidal, homicidal, violent, destructive, and nearly moribund cases, which, because of some trivial defect in the medical certificates, could not be legally received at asylums, and have been either returned to their homes or spent a night in a poor-house or jail until the flaws in the papers could be remedied.

*Confinement of the Insane in Jails.*—It is common in country-districts for a disturbed case to be placed temporarily in jail, often along with criminals, where he may, however, be detained for an indefinite period. The new bill forbids his confinement in the same room with criminals, and limits the detention to ten days at furthest.

*Home Furloughs for Asylum Cases.*—Under the existing law no provision has been made for patients who may be benefited by occasional visits at their homes during the period of their stay at the asylum. But in some institutions in the State, visits of ten days have been granted by the superintendents, on the ground that the medical certificates are legal for that period of time. I have known patients returning on the eleventh day, to be refused readmission without new certificates. The new measure arranges for furloughs of indefinite duration, according to the discretion of the superintendent of the asylum, the

commitment papers remaining in force during the whole of such leave of absence.

*The Boarding-out System.*—The boarding out of insane persons in private families at the expense of counties is permissible under the Gallup Bill, the superintendents of the poor to be fully satisfied of the good character of such families, and to visit the patients every three months. This applies more particularly to chronic cases taken from asylums, the superintendents of which must furnish a certificate as to the adaptability of the patients for care of this nature. This system is successfully practised in Scotland, some Continental countries, and in Massachusetts.

The above are the most important and valuable features of the Gallup Bill, and will appeal to everyone having at heart the welfare of the insane.

*Commitment to the Asylum.*—The manner of commitment contemplated in the new law is, in my opinion, positively harmful. The following is an outline of the method proposed:

When a person becomes insane, and it is necessary that he should go to an asylum, a justice of the peace, superintendent of the poor, or some judge of a court of record must be formally notified in this wise (Form B):

To Esquire, one of the Justices of the Peace of the Town of in the County of , State of .

SIR: Your informant respectfully represents that one residing at is insane and a fit subject for custody and treatment in a Hospital for the Insane, because ; and he therefore asks that the necessary steps be taken to investigate condition, as the law provides in such cases.

Whichever one of these officials has been notified then directs two physicians (in all probability political adherents, who will be thus rewarded for partisan services) to examine the alleged insane person, and report to him within one day, exclusive of Sunday, the result of the examination. The order issued to the physicians to make such investigation is as follows (Form C):

STATE OF , }
COUNTY. } OFFICE OF THE .

To , a legally qualified physician and Examiner in Lunacy, of County, State of .

Information in due form of law having been laid before me, alleging that one residing at is insane, and is a fit subject for custody and treatment in a hospital for the insane, you are hereby appointed to visit or see said person, and make a personal examination touching the truth of such allegations, and touching actual condition.

The physicians make each an exhaustive report according to a form provided for in the bill, too long to reproduce here, but to the thoroughness of which none can have objection, since the usually meagre details of our present certificates are as a rule decidedly unjust to the patient and useless to the asylum physicians about to undertake his treatment and care.

If the physicians report the patient not insane the case is dismissed; but if they find him insane and a proper subject for commitment, and make their report to a justice of the peace or to a superintendent of the poor, such official must himself also personally visit the patient and certify to the correctness of the proceedings and to his personal visitation, and must then deliver the medical certificates to a judge of a court of record within two days with the following certificate of his own (Form E):

To the Hon. , Judge of the Court, in the County of , State of .

SIR: I transmit herewith to you two medical certificates of insanity, in the case of , in the Town of in the County of , State of , made respectively by , M.D., and , M.D., Medical Examiners in Lunacy, qualified in accordance with the laws of this State, and acting under Commissions severally issued by me. I hereby certify to the correctness of these certificates and approve of their finding, which I have verified by a personal examination of said .

, Justice of the Peace.
, 18 .

Upon receipt of these three papers, the judge "may or may not visit the alleged insane person, or require that he be brought into court," but must state, in the order of commitment he then makes, whether he saw the patient or not, and if not, his reasons therefor. He may take further testimony or call a jury at his discretion. His order must read thus (Form F):

STATE OF , }
COUNTY. } OFFICE OF .

To the Superintendent of the for the Insane.

On the receipt of the certificates of two duly qualified examiners in lunacy, transmitted by , Esquire, one of the justices of the peace of the Town of in the County of , certifying to the insanity of of the Town of , and approved by the said justice, by whom said was personally visited and examined, I have seen and examined said respondent alleged to be insane, because it was not deemed necessary or advisable to do so, for the reason that ; and said respondent has been duly notified of proceedings taken in h case and of the time and place appointed for hearing, and had an opportuity to be heard thereon. The motion to take further testimony or to have a jury summoned was denied for the following reasons:

It appears to me, upon a full hearing and consideration, and upon evidence, statement, and certificates required by law, that said respondent is an insane person, and a proper subject for the treatment and custody of , a State insane asylum; and I so find. Therefore, it is ORDERED that *he* be committed to the , there to be detained until discharged according to law.

, Justice of the .

This order must be issued within five days after the last medical certificate. But before issuing this order, the judge is required to cause the alleged insane person to be fully informed of "the action about to be taken against him" (*against* him, forsooth, as if it were not *for* him, as if he were a malefactor instead of an invalid) and presumably such notification must be served personally upon the patient by a police officer deputized by the court.

In addition to the order to incarcerate the culprit in the psychopathic hospital, the judge issues a warrant either to the hospital superintendent or a proper county official to remove the offender to the institution he designates. If the warrant be issued to the former, he must send from the asylum attendants to convey the patient to the institution. When received, the medical officer of the hospital notifies the judge of the date of admission, persons attending the patient, etc., which paper the judge must cause to be filed with the commitment papers by the county clerk.

A brief summary of the steps in the complicated process may be presented thus:

1. A formal paper is made out by somebody (family physician?) notifying a public officer that a person is insane, and requires asylum care.

2. The official directs two physicians (very likely political on-hangers), in a formal paper to each, to examine the patient.

3. The two physicians make out two documents certifying to the insanity.

4. If said official be a justice of the peace or superintendent of the poor, he, too, must visit the patient, ascertain if the doctors were correct in their diagnosis, and, if so, approve of their finding and make out a formal paper

certifying to these facts. He then presents the three papers to a judge of a court of record.

5. The judge, if he does not care to bother about bringing the sick man into court, visiting him himself, or trying him by jury, merely makes out three more papers—one to be served upon the invalid, one an order committing him to some institution, and one a warrant for his transfer to the asylum.

6. Then the asylum officer gives formal notice to the judge of the receipt of the patient, and the judge must file this paper with the county clerk.

7. The judge must cause copies of the medical certificates to be filed in the office of the county clerk. He must also take proof as to the estate of the insane person, and file a certificate as to these facts with the clerk of the county.

Thus the papers requisite to the procedure are thirteen in number—one furnishing information of insanity; two notices to physicians; two medical certificates; two copies of the latter; one certificate from justice of the peace or poor-superintendent to judge; one notification to patient from judge; one order of commitment; one warrant for transfer to asylum; one notification of receipt of patient at the institution; one certificate as to patient's estate.

This may be slightly simplified by avoiding the justice of the peace and superintendent of the poor, and having a judge of the court of record first informed of the insanity, which will reduce the number of documents to twelve only, and, what is still more important, will dispense with one more annoyance to the sick man, viz., the personal visit of one of these officials.

To me the proposed law is somewhat confusing on one important point. I cannot quite clearly apprehend what becomes of the original medical certificates. The copies are to be filed with the county clerk. Nothing is said about the originals accompanying the patient to the asylum, which they surely ought to do; possibly their disposal has been forgotten in the multiplicity of details.

One's first query on looking over the Gallup Lunacy Bill would naturally be, "Is a sick man to be treated as if he were a criminal?" When his abdominal or thoracic viscera are acutely affected, and hospital treatment is required, he can be transferred without delay to the gentle ministry of a sick-ward; but when the most delicate organ of his body is diseased—his brain disordered—he must suffer visitation from two strange physicians, a public officer, and a policeman with a legal notification of his being a lunatic about to be taken to an asylum. It is unmerciful. It is pernicious. The law upon commitment is difficult enough of execution in its present form, and the truth is that the treatment of diseased brains in hospitals for the insane should, if anything, be rendered easier of attainment. Is an insane man an outlaw, to be thus treated, or rather maltreated? Rather make the access to asylums easy, and egress still more easy, and no harm will be done by wrongful detention! Rather throw open the general hospitals also to the curable insane, as they have recently done in far-away Victoria, Australia.

It is clearly to be seen that the framers of this law had in mind only the protection of a few cases, such as are often (generally unwisely) freed from asylums on writs of habeas corpus, and the prevention of the possible incarceration of a sane person in an asylum. But it is a narrow view to have this only in mind. To protect one doubtfully insane person, who is more than likely a troublesome paranoiac, nine hundred and ninety-nine are made to suffer.

That commitment upon the certificates of two physicians, sworn to, and approved by a judge, as now practised, is an efficient obstacle to the wrongful confinement of a sane person is attested by the fact that no sane person has ever been sent to an asylum in this State against his will. It is no argument to adduce the cases of "Nellie Bly" and other reporters, as has been done, who, for the aske of writing sensational newspaper articles, have sought entrance to institutions for the insane. Such persons would need but exercise a little more patience to run the gauntlet of all the provisions of the Gallup Lunacy Bill. I need but quote the following from a recently printed letter of Dr. John B. Chapin, who for many years was connected with asylums in this State:

"I have been familiar with admissions to four asylums for the insane during portions of thirty-four years that I have been connected with them, and I have never known of a single instance of the intentional commitment of a sane person as insane, nor of a single attempt to make such commitment; and I have no cases to report as coming within my personal knowledge."

And Dr. J. B. Andrews, superintendent of the State Asylum at Buffalo, formerly first assistant physician at Utica, writes:

"It has never been my misfortune to find in any case an effort on the part of medical men to declare a man insane and commit him to an asylum from any improper motive."

Here is the opinion of Dr. G. Alder Blumer, the present superintendent of the Utica Asylum, as to the adequacy of the law now in force:

"The present lunacy statute of New York State, if fully and conscientiously complied with, affords sufficient protection, in my judgment, against improper commitment."

Let the truly superior qualities of the Gallup Lunacy Bill, as above described, be amalgamated with the existing law as to commitment, and we shall have advanced a long step toward perfection in the elaboration of humane measures with regard to the insane.

201 West Fifty-fourth Street, New York.

## Clinical Department.

### ANTIFEBRIN IN THE TREATMENT OF HEADACHES.

By HARVEY B. BASHORE,

WEST FAIRVIEW, PA.

About a year ago I began a study of the analgesic effects of antifebrin in the various headaches, and my treatment has been so gratifying that I wish to record it. In headaches of the nervous type, in facial and supra-orbital neuralgias—not very severe—I prescribe five grains every half-hour, and in severe cases I give ten grains, to be followed by a similar dose in three-quarters of an hour, if necessary; to be most effectual, the dose must be graduated according to the severity of the case and the peculiarities of the individual, and when this is accomplished the administration of the drug becomes very safe and its effects exceedingly reliable. Of five hundred or more cases of these affections which I have treated I have given relief to all but a few, and in most cases the entire disappearance of pain followed the administration of the remedy. But it is in sick headaches that antifebrin seems to me to be the best of all remedies, not even excepting antipyrin, which I have used with excellent success; antipyrin will do well enough in the prodromal stage, but in the later stages may cause gastric disturbances and provoke that distressing symptom rather than allay it; in simple migraine, antifebrin is, I think, the remedy indicated, and if given in the beginning will almost certainly abort an attack. I have treated fifty cases at least of pure migraine, and I know of no failure to ameliorate the symptoms when the drug was properly administered, and here, too, the dosage is important; in the prodromal stage of an ordinary attack, five grains every half-hour was generally sufficient—if the case was further advanced, large doses at longer intervals are better, such as ten or fifteen grains every hour for two or three doses. If there is much gastric disturbance the dose should be placed directly upon the tongue and very little liquid used in taking it; but it must be remembered that antifebrin will not so

much cure an attack as abort it, hence the necessity for the early administration of the drug. I may add that I have lately used phenacetin as an analgesic, but found it in no way superior to antifebrin.

In regard to acetanilid-poisoning, I have only noted it once in all my cases, and in that instance a much larger dose than prescribed was taken. From my year's work, then, and its results I conclude that antifebrin is

1. A most effectual analgesic for headache.
2. The remedy, par excellence, for sick headache.
3. And that, when used with the precautions necessary in the use of all drugs, it is absolutely without danger.

## SNAKE-BITE AND ALCOHOL.

By HOWARD H. HOPKINS, M.D.,

NEW MARKET, FREDERICK COUNTY, MD.

On August 16th I saw a colored child, four years of age, who, the day before, had been bitten three times on the leg, between the ankle and knee, by a copperhead snake (*Ancistrodon contortrix*).

The snake measured thirty-seven and a half inches.

Two of the wounds showed the imprint of but one fang; the other one showed the marks of both fangs.

The mother told me she had given the child, just after it had been bitten, about half a pint of *common* whiskey.

At the time of my visit the leg was much swollen and very painful; the effect of the whiskey was beginning to disappear, and, as the heart's action was good, I directed the application of cloths, wrung out in hot water, to the limb, but gave no medicine. In four days from the receipt of injury the child was running about as usual, and the swelling had almost entirely disappeared.

Being much interested in the effects produced by snake-bite, I made the inquiry, several years ago, among a number of the older physicians of this (Frederick) county, some of whom had been in active practice for over fifty years, and I could not find one who knew of, or had ever heard of, a well-authenticated case of death from snake-bite.

The only poisonous snakes in this section are the rattlesnake and copperhead.

Those cases of snake-bite occurring in my own practice have always responded promptly to *moderate* stimulation (alcohol or ammonia), and I am very much inclined to believe the *quantity* (to say nothing of the *quality*) of the whiskey generally given before medical aid arrives is frequently responsible for the alarming symptoms occasionally met with, rather than the venom, which, in this country at least, I believe is rarely injected in sufficient quantity to prove dangerous to life, unless it is received immediately into a vein.

I shall be under obligation to any of your numerous readers who will kindly furnish me with cases known to them where death has resulted from snake-bite.

## THE DANGER OF ANTIPYRIN.

A correspondent, H. B., writes: "I wish to report a case of antipyrin-poisoning that lately came under my observation, and enter a protest against its general and indiscriminate use by the public.

"The patient, Mrs. A——, had taken thirty grains of the drug, in three equal doses, six hours apart, for the relief of a facial neuralgia, as she had occasionally done before without any untoward effect. I found the patient half an hour after the third dose was exhibited (which, by the way, was taken at the soda-water counter in a druggist's) in a condition approaching coma. The train of symptoms that occurred in the ensuing hour seemed all out of proportion to the amount of the drug administered: temperature, 103° F.; vertigo, chill, marked convulsion, nausea and vomiting, and decided impairment of respiratory function. On cessation of these phenomena the patient complained of her eyes feeling like live coals burning in their sockets. The heart's action during this time was in no way disturbed. Ought not the sale of this drug to be prohibited, except by prescription?"

# Progress of Medical Science.

The Treatment of Eczema.—Dr. Unna says that, even before the experimental cultivation of bacilli, exact clinical observation had distinguished a number of entirely different types of eczema, and he thinks that each different type will be found to require a different mode of treatment. The type most frequently seen in Hamburg is seborrhœic eczema, and the parasite causing it is the same which in the first instance produces pityriasis capitis. Those persons who suffer from seborrhœic eczema of the head, including those affected with pityriasis capitis, are apt to suffer from the same kind of eczema on other parts of the skin. Dr. Unna has repeatedly pointed out that we possess a series of valuable remedies for the treatment of seborrhœic eczema in all its forms—viz., sulphur, resorcin, chrysarobin, and pyrogallol. Of these remedies resorcin is the best, as being the least likely to produce local or general ill effects. It may also be used in an alcoholic or watery solution, or in the form of ointment, paste, soap, or powder. Dr. Unna's favorite formula is a solution of three drachms of finely powdered resorcin, with an equal quantity of glycerine, in six ounces of spirits of wine, diluted with four times the quantity of water or camomile-tea. A thin layer of cotton-wool well moistened with the solution is applied, covered with some waterproof material, and fastened by a bandage. These applications are particularly useful when the treatment is prolonged, or when it is carried out by night. They are, of course, impossible in general eczema of adults, but not in that of infants. Dr. Unna describes an especially important effect following the application of resorcin—viz., a swelling of the epidermis, by which all painful fissures are healed in a single night. In order to insure healing, he advises that the skin should be anointed after the removal of the bandage, and that washing with soap should be avoided. A few people suffer from a resorcin idiosyncrasy which necessitates the immediate cessation of this treatment, and the application of powder to the affected parts. This idiosyncrasy is, however, very rare, as he has only met with it ten times in five years' observation, during which time he has seen two thousand cases. He remarks that his treatment is not adapted to those cases of long-existing eczema in which strongly infiltrated or thickly indurated patches occur.—*The Lancet.*

Dithio-salicylic Acid.—While working in the chemical laboratory of the Society of Physicists in Frankfort-on-the-Main, Herr H. Baum, chemist, recently discovered a substance which is likely to compete with salicylic acid as a remedy and antiseptic. This new substance, dithio-salicylic acid, consists, as it were, of two molecules of salicylic acid concatenated into one molecule by two atoms of sulphur (*The Lancet*). The well-known bacteriologist Professor Hueppe, of Wiesbaden, has ascertained that a twenty per cent. solution of sodium-dithio-salicylate kills anthrax spores in forty-five minutes, whereas sodium-salicylate under the same conditions has no perceptible effect. Its effect on cholera and typhus bacteria, on the bacterium of green pus, and on the staphylococcus aureus, is much stronger than that of sodium-salicylate. Sodium-dithio-salicylate II. (there is a similar substance called sodium-dithio-salicylate I.) has been tried in many cases of acute rheumatic fever in Dr. Knoblauch's wards in the city hospital of Frankfort. In the slighter cases a dose of three grains was given every morning and evening; in the severer ones the same dose every morning, and two, three, or four times an hour every evening. In slight cases pain, fever, and swellings disappear after two days; in severer ones, after six days at most. As

compared with sodium-salicylate, sodium-dithio-salicylate possesses the following advantages: Stronger effect and consequent adequacy of smaller doses, no bad effects on stomach, heart, and vessels, no collapse, no humming in the ears. A Frankfort physician had given a patient, who was suffering from acute rheumatic fever, six ounces of sodium-salicylate without any essential alleviation. He then tried the new remedy, giving the patient four doses of three grains daily, which cured him in five days.

THE GERMICIDAL ACTION OF BLOOD.—Drs. Nuttal and Buchner ("Ueber die bacterientödtende Wirkung des zellenfreien Blutserums," *Centralblatt für Bakteriologie und Parasitenkunde*) have added materially to our knowledge of the germicidal action of blood. Both defibrinated and freshly drawn blood manifest a decidedly deadly action upon bacteria, for more than four hours after it has been drawn from the body. This is most marked toward the pathogenic bacteria. For example, the number of anthrax bacilli in a given quantity of material was reduced in two hours from 4,800 to 56 by being mixed in a test-tube with defibrinated blood; and three hours later only three living bacilli remained. Almost as remarkable a germicidal influence was manifested toward other pathogenic bacteria. The destruction of putrefactive bacteria is, however, much less marked, and against some of them, at least, the blood manifested little germicidal influence. This is in accord with the latest ideas of the origin of parasitism. These investigations open up a new field of inquiry and thought, which promises a reorganization of our ideas of infection. We are brought back to consider the animal body a colony of individual cells, the integrity of which, when attacked by parasitic bacteria, depends upon the issue of the struggle for existence between individuals of the invading parasites and the individual cells of the body.—*The Journal of the American Medical Association.*

THE FIRST SOUND OF THE HEART.—Dr. Krehl, from investigations conducted in the Physiological Institute of Leipsic, has arrived at the conclusion that the contraction of the cardiac muscular fibres is the principal cause of the first sound, instead of being, as is now generally admitted, merely an accessory cause, or, as some will have it, entirely inoperative (*The Lancet*). The part played by each of these factors in the production of the sound can only be finally determined when the intensity of the full sound is ascertained, as well as the intensity of the several possible factors. But the difficulties of the case are well known; for while, on the one hand, the systole of the heart is found to consist of a single and sudden contraction, which it is held can produce no sound, since it produces only a single wave, and while it is rendered indistinct by the incompetency of the auriculo-ventricular valves, on the other hand, such experienced observers as Ludwig and Dogiel have satisfied themselves that under circumstances in which the sudden tension both of the auriculo-ventricular valves and of the vascular walls is impossible the first sound is still indubitably audible, from which it would appear that one, if not the chief, agent in its production is the muscular sound. The researches of Krehl were undertaken to test the truth of Ludwig and Dogiel's observations under conditions in which the play of the valves was still more stringently prevented, and this he believes he has accomplished by the employment of an ingeniously constructed little apparatus, consisting of a tube, from the extremity of which an expanding crown can be protruded, and by this means, when the instrument is introduced into the cavity of the heart, the valves can be firmly pressed back against the walls of the arteries. The animals used were dogs, and while after the insertion of the instrument one observer auscultated the heart, another alternately pressed in and withdrew the crown. The results obtained were that when the auscultator knew that the crown was thrust out and the valves compressed against the arterial walls, he perceived that the systolic sound was duller and a little less strong; but when with averted face he was unaware of the position of the crown, he was unable to distinguish any difference between the periods when the valves were acting and when they were not acting. This result obtained incidental confirmation by the fact that in all instances as the animals bled to death the second sound disappeared, while the first sound was still for some time distinctly audible; and additional evidence is to be found in the circumstance that, when in such cases the ventricle had ceased to contract and the auricle alone acted, a sound was clearly perceptible—that is, when the play of the valves had certainly ceased. He does not consider that he has been able to determine from his investigations whether the cardiac contraction is a simple convulsion or a tetanus, but he thinks that the sound may arise from the friction of the muscular fibres against each other; and this is supported by the observation or Dr. MacWilliam, that a sound is audible on simple convulsion or spasm of the voluntary muscles.

DIETETIC TREATMENT OF BRIGHT'S DISEASE.—The treatment of chronic renal affections by special forms of diet has recently been the subject of a series of investigations by Professor Schreiber, of Königsberg, whose results are of some interest in view of the present position of the question. He traverses Senator's statement that one ought in cases of albuminuria to forbid the use of eggs, holding that their injurious influence is open to question (*The Practitioner*). He took for the purposes of experiment eight people suffering from kidney disease, to whom he gave along with their ordinary diet six to ten eggs daily. Before the beginning of the experiment they had been under observation from four to eight days, on the usual diet, until the fluctuations in the amount of albumen in the twenty-four hours had been determined; the estimations being likewise made for several days after the eggs were discontinued. In four of the cases the eggs were administered boiled; in the others, raw. In the former group, the patients received six eggs daily, and in none of them during the period of administration of the nitrogenous food could any fluctuation or increase in the amount of albumen be determined. In the second group, six to ten raw eggs daily not only did not show an increase in the excretion of albumen, but actually led to a considerable diminution. Similar results have also recently been recorded from Leyden's wards. These observations also agree with those of Oertel, who has stated that the addition of a great quantity of albuminous food may affect albuminuria favorably. Schreiber maintains that none of the three forms of diet—mixed, meat, or milk—appears to be capable of influencing constantly and unmistakably the excretion of albumen in kidney disease—a result, he thinks, although really negative, to be nevertheless received with satisfaction when one considers that patients can never stand for any time a one-sided diet. In discussing the question how a patient suffering from Bright's disease ought to be dieted, Schreiber recommends that to an ordinary mixed diet should be added fluid or coagulated albumen, meat and other nitrogenous substances, and as there is not less albumen passed under a pure milk-diet than under a nitrogenous one, it succeeds better to combine the two and adds to the body-weight. A special diet for Bright's disease is not in the least indicated; it ought to be founded on the broadest basis, bearing in mind that the disease is an affection gradually and steadily consuming the bodily strength; while the forms of diet should be given according to the want and necessity, and without the unjustifiable and exclusive endeavor to compensate or change the loss of albumen by the urine.

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DANGER IN SILK THREAD.—Silk thread is soaked in acetate of lead to increase its weight, and persons who pass it through the mouth in threading needles, and then biting it off with the teeth, have suffered from lead poisoning.—*Sanitary News.*

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## THE DISEASED-MEAT SCARE.

THE *Nineteenth Century* recently published as its *pièce de résistance* an article on the diseases conveyed by butchers' meat. The author, Dr. Behrend, is unknown to us as a pathologist or sanitarian, but he seems to have collected industriously all the facts obtainable regarding tuberculosis of cattle and the dangers to human beings of infection therefrom. He quotes a statement recently made before the Berlin Medical Society to the effect that in some parts of Germany one-half the cattle are tuberculous; and adds that the only Continental town in which "a systematic inspection of all dead meat is enforced" is Hanover, where a careful examination of the various organs is made by experts who are continuously employed, and meat cannot be sold unless it bears a stamp affixed by them. In one month, at Hanover, 8,000 pounds of meat were condemned as tuberculous.

Eight thousand pounds means, however, only nine or ten cows. "But," says Dr. Behrend, "if we apply the Hanoverian standard, we shall find that 7,500 head of cattle thus affected are eaten by Londoners every year, and that, at the ordinary rate of computation, at least 375,000 of the inhabitants of the metropolis run the risk of being tainted with consumption."

Now all this is very interesting and important, and Dr. Behrend's article has excited much talk and learned editorial writing in the daily press. But it is yet entirely unproved that the meat of tuberculous cattle ever caused tuberculosis in man. Bovine tuberculosis is generally pulmonary. Tuberculous bacilli are found sometimes in the glands, but practically never in blood or muscle, except in acute general infection. Even if the bacilli do get in meat-muscle, Nocard, who is an ingenious and skilful bacteriologist, has shown that they are destroyed or digested in the tissue. And Nocard has positively affirmed that one can safely eat the flesh of tuberculous animals the tubercles of which are limited to the viscera and lymphatics. High temperatures destroy the bacillus also, and, therefore, thorough cooking would make even tuberculous tissue safe.

Dr. Behrend ought to know, also, that tuberculous meat can only infect the body through the alimentary tract; but Koch has shown that adult bacilli are destroyed in the stomach, and that the spore bacilli can only get through alive by a narrow margin.

But, furthermore, if tuberculous meat were so dangerous there should be more primary intestinal tuberculosis In adults this disease is a great rarity, and, practically, it may be ignored. Even including infants, it does not make up ten per cent. of tubercular diseases.

We venture to say, therefore, that the 375,000 Londoners who possibly ate the presumably tuberculous meat digested it and its bacillus, and were the better for their repast. It must be very evident, we think, that the danger to adults from eating flesh of tuberculous cattle is so extraordinarily remote that it may be practically ignored. The liver, "lights," and glands of such cattle, however, are perhaps not so safe, and sausage made up from meat seriously affected may not be free from danger. We advise, therefore, as we have done, the governmental inspection of slaughter-houses; but we much more seriously urge the supervision of milk. This, it is known, can carry the tuberculous virus, and, being consumed uncooked by delicate and growing children, is a far more dangerous product than the flesh of tuberculous cattle.

## THE CORONER SYSTEM.

EFFORTS are periodically made to abolish the coroner system in this and other States. These efforts have not been entirely futile, for they have caused the remedying of some abuses and have, perhaps, educated the people a little upon the question.

The last attempt to upset existing methods was made, we believe, by the Medico-Legal Society and Mr. Clark Bell in 1881. At that time the evils of the present coroner system, the political corruption, the gross stupidity and ignorance often shown in connection with its workings, were depicted, and our State Medical Society was asked to take some action in the matter. No material changes, however, were secured.

Lately the Society of Medical Jurisprudence has taken the subject up, and we learn that a committee has been appointed to investigate the matter.

The trouble heretofore has been that the State Constitution has stood in the way. This requires that each county appoint four coroners, and, with the powerful authority of this instrument to back them, adherents of the present system seem to have easily defeated attempts at reform.

It has been shown, however, that the Constitution, while calling for four coroners per county, does not explicitly lay down or limit their duties, and it is quite possible for the Legislature to arrange details so as to make their duties very slight and limited to other things than the examination of cases of sudden death. These latter duties, together with such others as are cognate, could be easily given by legislative action to medical examiners, as has been done now in Massachusetts for over ten years.

## THE DEADLY CURRENT.

THE death, within a short time, of three men by the electrical current has justly aroused a great deal of public excitement; and it is a grim commentary on the statements made not long ago regarding the uncertainty of electricity as a lethal agent.

In the indignation occasioned by the recent accidents, it is well to bear in mind that there are two sides to the question of electric-light currents, and that by carrying out measures for public safety too stringently an impor-

tant and useful industry may be crippled. It is possible that by careful insulation and underground wires even the thousand-volt currents may be made safe.

We should not forget that the railroads, and gas, and mines have a regular and large contingent of fatal accidents, which the public ignores unless inexcusable neglect and carelessness are shown. The same position should be taken as regards electric-light currents.

### THE FIRST PHYSIOLOGICAL CONGRESS.

The First International Congress of Physiology, which recently met at Basle, was attended by a number of eminent physiologists, and many interesting communications were made. These will after a time reach medical readers in detail; meanwhile, we would call attention to some of the more important topics that were discussed. Of course, Professor Goltz was present with his dogs and his theory of non-localization of the functions of the brain. This year Professor Goltz gave the history of a dog from which he had removed nearly the whole of the cerebral cortex. The dog lived fifty-one days, and though the animal had been rather stupid while in its anencephalic condition, it could still raise itself up and walk about. A dog was also shown in which nearly all the left half of the brain had been removed; yet it could walk, and use the muscles of the right side. All this, however, proves nothing against the clinical facts of cerebral localization, and it is time for the Antivivisection Society to protest against the further use of dogs, at least for futile experimentation.

Professor Heidenhain reported the results of a study of the formation of lymph, and claims to have proved that it, like glandular secretions, is the product of the activity of the cells of the capillaries. Heidenhain looks upon lymph as a fluid secreted for a purpose preliminary to the formation of urine. The lymph, he thinks, is a sort of reservoir in which are accumulated products to be used in urinary excretion. At the proper moment the lymph-products re-enter the blood, and are carried to and eliminated by the kidneys.

Educationists and sanitarians should be interested in an alleged discovery of Dr. Mosso, of Turin. By means of an instrument, called the ergograph, he is able, he says, to measure the condition of the brain by that of the muscles. His instrument serves to diagnosticate and dose the amount of mental work performed.

Professor Bowditch, of Boston, showed some composite photographs of doctors, car-drivers, and conductors. We are glad to learn that a distinct difference in the degree of intelligence is shown by the composites, but the reporter does not say in which class the highest form prevails.

Drs. Dastre and Loge, of Paris, have been making some experiments in order to determine what is the last reflex which persists in profound anæsthesia. This, it has been usually thought, was the oculo-palpebral, but Dastre and Loge say that it is the labio-mental. In other words, even after the oculo-palpebral reflex is gone, if one irritates the mucous border of the lower lip, there appear movements of the chin.

M. Minkowski described some experiments with dogs from which the pancreas was entirely removed; the result was a permanent diabetes.

A number of other communications of a somewhat more technical and purely scientific character were made at the Basle Congress. But it will be seen from the foregoing that physiological science is each year giving us new and fruitful advances.

### THE HYDERABAD COMMISSION ON THE ACTION OF CHLOROFORM.

There is still a doubt, in some scientific circles at least, as to whether chloroform first paralyzes the heart or the respiration. In Edinburgh, for example, we are told that failure of respiration is regarded as the chief or only danger in administering chloroform, while in London it is failure of the heart which is mostly feared. We have referred already to the experiments and experience of Surgeon-Major Laurie in Hyderabad, from which he has deduced very positive conclusions as to the innocuousness of chloroform so far as the heart is concerned. Some criticism having been made upon these views, his Highness the Nizam of Hyderabad has placed the sum of $5,000 at the disposal of *The Lancet*, for the purpose of paying the expenses of a commission to repeat the experiments and test the validity of the Scotch-Indian view of chloroform.

We are glad to learn that so distinguished a physiologist and pharmacologist as Dr. Lauder Brunton has consented to undertake the work, and has already sailed for India. The result of his trip will be watched for with much interest, though we doubt if anything can be found in India which will change the views which American surgeons have reached as the result of long experience.

## News of the Week.

Resolutions of Sympathy for Drs. Irwin, Ferguson, and Hance.—At the recent meeting of the Society of Medical Jurisprudence and State Medicine, a resolution was unanimously passed denouncing the unjust persecution of Drs. Irwin, Ferguson, and Hance in the Bishop autopsy matter, and expressing sympathy with and confidence in these gentlemen. This is as it should be, and is in perfect accord with the sentiment of the profession here and abroad. These gentlemen are beyond the suspicion of wrong-doing, the charges against them are absurd, and the proper thing for the prosecuting parties would be to exonerate the defendants promptly and effectually. Let us have an end to this uncalled-for and unjust persecution.

Compulsory Notification of Infectious Diseases.—The new Act of Parliament providing for the compulsory notification of infectious diseases comes into force at the end of next month. In London, the act is compulsory; in the provinces, its adoption is optional, and it rests with the local authorities to determine whether they will apply the act to their district or not. The bill was so "rushed" through the House of Commons at the last that no adequate discussion of the question of "dual notification" was possible. That system, therefore, remains an integral part of the bill, although it is one vigorously opposed by no inconsiderable section of the profession. In accordance with it, both the medical attendant and the patient's representatives are bound to notify to the medical officer of health for the district any case of infectious dis-

ease. A list of the infectious diseases to which the act will apply is given, but local authorities are empowered to make additions to the list at their discretion. Those named are the following: Small-pox, cholera, diphtheria, membranous croup, erysipelas, and the following fevers, viz., scarlet, typhus, typhoid, enteric, relapsing, continued, and puerperal.

ANOTHER CONFIDENCE MAN.—A smooth-spoken individual, of good address, and possessing a phenomenal familiarity with the "Medical Register," has been recently engaged in victimizing members of the profession in this city, representing himself as secretary of the "Commercial Travellers' Association." On the strength of his references (such as cards from reputable physicians) he seeks to interest doctors in a scheme for giving medical assistance to commercial travellers, stating that he has been commissioned to engage physicians in each town and city in the State to attend sick drummers and their families. The credulous victim is induced to advance a few dollars to purchase blank forms.

THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.—The next annual meeting will be held in Albany, February 4 to 6, 1890. The Business Committee has been appointed as follows: Dr. George H. Fox, 18 East Thirty-first Street, New York; Dr. Henry Flood, Elmira; Dr. Herman Bendell, Albany. Application should be made before January 1st by those desiring to read papers, in order to secure the proper arrangement of time and subjects. Papers should not exceed fifteen minutes, and the title should accompany the application, which may be made to any member of the committee.—DANIEL LEWIS, President, 62 Park Avenue, New York.

THE AMERICAN PUBLIC HEALTH ASSOCIATION meets in Brooklyn next week, and New York physicians have been asked to help in entertaining the guests. We trust that the profession in this city will generously respond.

MASSAGE OF THE HEART, which is Dertel's latest device in mechano-therapy, consists essentially in causing the patient to make slow, forced expirations, while the masseur, with his hands upon the ribs, assists the expiratory effort, pressing the hands forward toward the ensiform cartilage. The patient then takes a deep inspiration. The process increases the strength of the heart's systole and helps the diastole.

THE DIGITALIS OF THE LUNGS is a name fancifully given to quebracho by Dr. E. M. Hale (*N. A. Practitioner*). This is a drug which has failed to hold its place in therapeutics, though occasionally it seems useful. Dr. Hale says that the alkaloid aspidospermine, in doses of gr. $\frac{1}{100}$ to $\frac{1}{500}$, has a better action.

A NEW COLLEGE OF PHARMACY.—The Kings County Pharmaceutical Society has had under consideration plans for the establishment of a college of pharmacy in Brooklyn. It is reported that the preliminaries have all been agreed upon, and that before many months a fully equipped school will have been launched.—*N. Y. Medical Journal.*

SCARLET FEVER IN LONDON is still on the increase, and it is thought that another of the hospitals of the Metropolitan Asylums Board will shortly have to be opened.

A POST-GRADUATE COURSE FOR LONDON is projected, to commence in January next. Several so-called "post-graduate" courses have already been held in London, but in every one of those hitherto held the venture has been in connection with one particular hospital, to which the instruction given has been confined. The new scheme is for a course comprising clinical teaching at several hospitals, which have arranged for joint action in the matter. The first course is to be given by members of the staffs of the following hospitals: The Brompton Consumption Hospital, the Hospital for Sick Children (Great Ormond Street), the National Hospital for the Paralyzed and Epileptic, the Royal London Ophthalmic Hospital, and the Hospital for Diseases of the Skin (Blackfriars). It will be noted that these are all special hospitals without medical schools (though all are at present available for clinical study), and this marks a new departure, for all the "post-graduate" courses hitherto given in London have been in connection with one of the general hospitals to which medical schools are attached. Should the new scheme succeed, it will doubtless be largely extended by arranging for other hospitals to join it. Otology and gynecology will then probably receive attention also. It is somewhat remarkable that a course omitting them should have been announced. Three courses a year are to be given. These will commence in January, May, and October, respectively, and each occupy eight weeks. The duration of the courses is, perhaps, the weakest part of the scheme. A fee of ten guineas will be charged, or three guineas for the demonstrations at any one hospital.

A CONTEST has been going on in Brooklyn between Dr. George R. Fowler and Dr. Nelson B. Sizer as to who should be head of the medical staff of the Bushwick and East Brooklyn Dispensary. It is asserted by Dr. Fowler that Dr. Sizer was elected president at a packed meeting. The matter has been brought before the courts.

DR. THOMAS SNOWDEN, one of the leading physicians of Peekskill, N. Y., died in this city on October 11th. Dr. Snowden came to this city on October 3d to arrange for the admission of his son to college. He was suddenly struck down by apoplexy. Dr. Snowden graduated from the College of Physicians and Surgeons in 1849.

THE DIAGNOSIS OF EXTRA-UTERINE PREGNANCY.—Dr. J. M. Baldy, of Philadelphia, writes: "In my article on 'The Early Diagnosis of Extra-uterine Pregnancy,' in THE RECORD of September 21st, I made the statement: 'Also of Janvrin, who stated at the Washington meeting of the American Gynecological Society that the diagnosis of extra-uterine pregnancy was easier than that of normal pregnancy.' Dr. Janvrin writes me that he never made such a statement, or anything that could be so interpreted. I had thought I had heard him make the statement myself, but of course must have been mistaken. I wish, therefore, to withdraw the quotation."

THE AMERICAN ACADEMY OF MEDICINE is endeavoring to make as complete a list as possible of the Alumni of Literary Colleges, in the United States and Canada, who have received the degree of M.D. All recipients of both degrees, literary and medical, are requested to forward their names, at once, to Dr. R. J. Dunglison, Secretary, 814 North Sixteenth Street, Philadelphia, Pa.

NEW YORK STATE MEDICAL ASSOCIATION, OFFICERS ELECT.—The following were elected on the last day of the session of the Association: *President*—John G. Orton, of Broome County; *Vice-Presidents*—Douglas Ayres, of Montgomery County; W. H. Burton, of Rensselaer County; E. Mott Moore, Jr., of Monroe County, and William B. Eager, of Orange County; *Secretary*—Everard D. Ferguson, of Rensselaer County; *Director of Library*—John W. S. Gouley; *Members of the Council*—First District—C. M. Klock and W. H. Biggam, of Montgomery County. Second District—Thomas Wilson, of Columbia County. Third District—H. O. Jewett, of Cortland County. Fourth District—Simeon T. Clark, of Niagara County. Fifth District—John G. Truax, of New York County.

THE "MEDICAL WAIF" has been wafted into the embraces of the *North American Practitioner*, which esteemed journal has absorbed and extinguished it.

"DIPHTHERITIC SORE THROAT."—The editor of the *Indiana Medical Journal* truly and forcibly says, regarding the above expression: "There is no such disease known to medical science. An individual either has or has not diphtheria. If the former is the opinion of the physician, let him say so; if the diagnosis is uncertain, it is also best to say that or nothing. Surely there is no excuse for the use, under such circumstances, of terms which are both professionally and popularly misleading, and which imply a belief that there is a condition which has a diphtheritic element and yet is not diphtheria."

A TRAINING SCHOOL FOR NURSES has been opened in connection with Johns Hopkins Hospital.

MANHATTAN EYE AND EAR HOSPITAL.—Dr. W. M. Leszynsky has resigned from the Manhattan Eye and Ear Hospital.

SOME OF OUR ESTEEMED Chicago contemporaries are worrying over the meagre show which the medical profession can make at a World's Fair. "What," says the *N. A. Practitioner*, "have we got to show the medical men of the world?" We think that our contemporaries and colleagues are feeling unnecessarily disturbed.

A NEW SOURCE OF MORPHINE.—MM. Adrian and Bardet, after investigating the properties of the California plant *Eschscholtzia Californica*, say that it contains an alkaloid identical with morphine. The *Occidental Medical Times* publishes an account of the plant written by Dr. W. P. Gibbons. It is therein stated that the plant belongs to the *Papaveraceæ*. Years ago he made some experiments with it, but got no definite results.

THE GREAT COMPOSER.—Being asked the name of the world's greatest composer, a smart university young man said: "Chloroform."—*Philadelphia Record.*

DOCTOR—"Not so well to-day, eh? Have you kept him quiet and given him his medicine regularly?" Mrs. Richard Bevylin Buckner—"Dey 'ain't been nobody in de room wid him 'cept me an' de children, so he's been nice an' quiet; an' I give him de med'cine like you tole me—three spoonfuls every hour." Doctor—"Great heavens, woman, it's a wonder he's alive! I said one spoonful every three hours." Mrs. Buckner—"Well, now, Doctah, dey ain't no diff'rence between one three an' three ones. Count 'em fo' yo'self an' see."—*Harper's Bazar.*

## Reviews and Notices of Books.

A MANUAL OF DISEASES OF THE EAR, FOR THE USE OF STUDENTS AND PRACTITIONERS OF MEDICINE. By ALBERT H. BUCK, M.D. Pp. 420. New York: William Wood & Co. 1889.

THE present volume is more or less a revised edition of Dr. Buck's previous work, entitled "Diagnosis and Treatment of Ear Diseases" (1880), and is, as the title states, especially intended for students and practitioners of medicine. This book is, however, a more systematic and scientific essay than the author's former volume.

Among the more especially revised portions of the work may be mentioned the treatment of different forms of acute and catarrhal inflammation of the middle ear. Here considerable space has been devoted to the importance and manner of removal of adenoid vegetation from the vault of the pharnyx, and to the application of other local remedies to the naso-pharyngeal mucous membrane. Chapter XII., dedicated to diseases of the mastoid process, is a very comprehensive sketch of the subject, and well supplied with excellent illustrations. The writer goes very elaborately into the treatment with the drill, chisel, etc., of which procedure he is a well-known advocate. Chapter XIV., on syphilitic and tubercular disease of the deeper parts of the ear, will be found interesting reading. In the appendix is given a short and concise anatomical and physiological sketch of the ear, with numerous well-selected illustrations. The index is unusually complete.

DISEASES AND INJURIES OF THE EAR: THEIR PREVENTION AND CURE. By CHARLES HENRY BURNETT, A.M., M.D. Pp. 154. Philadelphia: J. B. Lippincott Company. 1889.

DR. BURNETT'S little book forms one of a series entitled "Practical Lessons in Nursing," the contributions of several different authors, and published by the above-named firm. The writer presents to the public a very readable little work, and which, owing to the absence of technical terms, will be easily understood by most persons. The object of the author has been to show the public how ear diseases may be avoided by care, and, in case they have contracted affections of the hearing organ, to warn them against the numerous experimental forms of treatment so much in vogue and so often disastrous. Dr. Burnett has certainly carried out his idea in a very successful manner. Especially good is the advice he gives in relation to foreign bodies in the external auditory canal, where meddlesome treatment so frequently results in disaster. Equally valuable are his remarks about the effect of diseased teeth, dental plates, and fillings, in the causation and maintenance of aural troubles. The author goes quite fully into a detailed description of the causative influences in chronic catarrh of the middle ear, and gives many valuable hints and suggestions from an hygienic point of view. The book contains a few illustrations of the anatomy of the ear, sufficient for explanatory purposes, and an excellent index.

TRAVAUX D'OBSTÉTRIQUE DU DR. A. ANVARD. Tomes I.-III. Paris: Lecrosnier et Babé. 1889.

OBSTETRICAL WORKS OF DR. ANVARD. Three volumes. Paris.

IN these rather bulky volumes Dr. Anvard has embodied most of the doctrines and methods of practice now current in the department of obstetrics in France. With some unimportant exceptions, those doctrines agree with what is taught in our own country. Antiseptic accouchements, or rather aseptic ones, are the aim and object of French obstetricians, as well as those of other civilized countries.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, October 3, 1889.*

THE PRESIDENT, ALFRED L. LOOMIS, M.D., IN THE CHAIR.

DR. C. L. DANA read a paper entitled

### THE PATHOLOGICAL ANATOMY OF CHOREA—A CASE, WITH AUTOPSY.

It dealt chiefly with the pathological anatomy of the nervous centres. Those occurring elsewhere, particularly in the heart, had often been described. There was pretty definite agreement that the most uniform condition in cases dying with chorea was fibrinous deposits on the valves of the heart, usually the mitral. It occurred in ninety per cent. of the cases. Turning to the nervous side, he first gave his own case. The patient was a Swiss, aged eighteen, single, whose family history was unknown. He was admitted to the hospital, December 15, 1888. He had always been weak and sickly as a child; no rheumatic, venereal, nor alcoholic history. He began to have choreic movements twelve years ago, or at the age of six years; cause unknown. The movements at first were not severe. He had had so-called epileptic attacks at occasional intervals for several years. Formerly they occurred at night only; later they came on during the day also. They began with a shrill cry.

### PHYSICAL EXAMINATION AT THE HOSPITAL.

The patient lay abed, unable to walk or help himself because of the violence of the choreic movements. He was dull, but answered questions intelligently. Speech slow and jerky. There was the mark of a former trephining for epilepsy. There was no paralysis, no heart murmurs; lungs and abdominal viscera normal; urinary examination negative. The movements were so severe that he could not feed nor help himself. He had several epileptoid attacks daily and nightly. The fits were of a hysteroid character, seemingly not strictly epileptic. Dr. Dana had not himself seen an attack.

The patient improved considerably under chloral hydrate and other treatment until January, 1889, when he contracted pneumonia and died. The autopsy showed the lesions of pneumonia. The heart was normal, and showed no vegetations on the valves. The skull was unusually thick, seven-eighths of an inch on section through the occipital bone. The pia mater was thickened, not markedly adherent; the cortex of the brain appeared normal to the eye except for very superficial softening on the under-surface of both temporal lobes. The cord was apparently normal. Sections were made of the brain, cord, and several of the nerves for microscopical examination.

Two or three cuts were made vertically through the brain when it was fresh, and appeared to be slightly congested, but there appeared to be no spots of softening and no hemorrhages. However, the deeper parts of the brain did not harden well for microscopical study. Under the microscope pieces were examined from the motor, temporal, and biparietal convolutions, corpora striata and thalamus, bulb and cord, and some of the nerves. There was a slight amount of lepto-meningitis, the gray matter was considerably injected, the neuroglia was not markedly increased, occasionally a cell was seen undergoing pigmentary degeneration. The nerve-fibres could be seen running up into the cortex, and the transverse fibres of the cortex were also present. The chief changes were just beneath the cortex where the white matter was honeycombed, the change in some places being apparent even to the unaided eye. The walls of the blood-vessels were somewhat thickened, but not markedly so. There was no real arteritis or endarteritis, but the vessels had been much distended by exudates of blood-cells, with dilatation of the perivascular spaces. The process, though chronic, could not be looked upon as inflammatory. It was due rather to flabbiness and loss of tone of the vessel-walls. There were no colloid bodies. At the base and tip of the temporal lobe, however, there was softening, a severer grade of meningeal inflammation, the white matter beneath was more excessively honey-combed, while there was evidently an increase of the neuroglia-cells. The basilar ganglia and internal capsule did not appear to the unaided eye so much involved as did the subcortical tissue, although some portions of the internal capsule, the deeper parts particularly, did not harden well and sections could not be made. The optic thalamus and anterior part of the caudate nucleus showed the same honey-combed appearance from vascular dilatations, though less marked than in sections higher up. The lenticular capsule showed more serious degenerations, the walls of the blood-vessels were even degenerated and seemed to fall to pieces, and some of the nerve-fibres seemed swollen and disorganized, although some of these changes may have been post mortem. The nucleus of the fourth cranial nerve seemed degenerated.

The spinal cord showed some congestion; the distended and thickened vessels were most numerous, apparently, in the lateral columns. It had none of the honey-combed appearance found in the brain and pons. In the lumbar cord a double canal was present, and for a short distance one could see three canals, apparently, with epithelial lining. The anterior and posterior roots showed no degenerated fibres. Macroscopically, the cerebellum seemed normal.

The severest changes existed under the surface of the temporal lobes, in the internal capsule, in adjacent parts of the corpora striata; the pons Varolii and medulla showed the same condition, much less marked. There was slight connective-tissue increase in the pyramidal tracts, the spinal cord showed slight lepto-meningitis and congestion in the lateral tracts, a double canal in the lumbar region.

The author then reviewed cases reported by other writers. The mortality from chorea, he said, seemed to be much greater in England than anywhere else. In the English hospitals three or four per cent. of all the cases ended fatally. He knew of only three fatal cases in America, reported in detail. He had examined and tabulated the post-mortem records in over eighty cases. Eliminating the duplicated ones, he had found on record nearly two hundred reports of autopsies. The large majority were of no value as indicating the nervous lesions. Indeed, he had found only thirty-nine cases in which a satisfactory account had been given of the nervous system, and even here, in some instances, the examination had not been complete.

They had shown congestions, extravasations, emboli, and softening in the nervous centres; they had also proven the great uniformity of heart-lesions. It was, however, only by very minute and critical microscopical examination that light had come. But the records of the complicated, of the uncomplicated, of the acute, and of the chronic cases should be studied separately. It was only the acute and chronic chorea of the Sydenham type which one ordinarily met, and it was this disorder in which the pathological anatomy should be especially studied.

Among the thirty-nine cases with autopsies of the nervous system, there were twenty-five in which the disease was the acute chorea of Sydenham, uncomplicated with other serious disorders. Leaving out six cases, for special reasons, there remained nineteen in which a careful microscopical examination had been made. In sixteen there was a record of intense cerebral hyperæmia, periarterial exudations, spots of softening, and minute hemorrhages, and, occasionally, aneurisms. Of the remaining three cases, in one absolutely no changes were recorded, but Dr. Dana thought some must have been overlooked.

In five chronic cases, lasting from four to twelve years, there were found dilatation and thickening of the arteri-

oles, with necrotic changes, spots of sclerosis, fungus growths along the vessels in one case. The cord was somewhat similarly involved, though less in extent.

Dr. Dana thought we were not far from obtaining an anatomical basis for chorea. In the acute types there was hyperæmia of the brain, and of parts of the cord. In the brain it was not meningeal, but affected the deeper parts; it was more than an ordinary congestion. The arterial walls were paralyzed, dilated, badly nourished, and an exudation took place. Sometimes there were thromboses and spots of softening, or the vascular walls gave way and some small hemorrhages took place. On the other hand, the lymph-spaces around the nucleated cells and neuroglia were not dilated; no proliferation of connective-tissue cells, no distinct sign of inflammation. The process was one of vaso-motor paralysis. "Inflammatory," or "subinflammatory," was not strictly a correct term to apply to it. In the older cases the vascular changes were more marked, the small arteries were permanently dilated, a little thickened, varicose, and the other peculiar changes which had been described took place.

Admitting that there were the vascular and degenerative changes already indicated, we had yet to learn the cause before we could know the pathology of chorea. Several theories had been advanced, as the humoral, the embolic, the subinflammatory, the functional or agnostic, and the infectious theories. After briefly considering these, the author said there were three things at least which had been well determined in chorea, namely, the existence of an abnormal state of the blood, an intense cerebral hyperæmia in certain parts, and a neurotic history. He asked if we must not logically combine a humoral and a neurotic theory to explain chorea. The disease was a kind of traumatic neurosis occurring in children with impoverished blood. Repeating, he said that in chorea there was a neuropathic and a humoral state, the preponderance of the two varying in different cases, and giving indications for treatment.

Dr. L. C. Gray being asked to open the discussion, thought little remained to be said except to congratulate the author on his excellent and exhaustive treatment of the subject.

Dr. M. Allen Starr made some remarks on the theories of the causation of chorea, and said he had inclined toward the infectious theory, although it had not been proven, and there were some objections to accepting it, at least in all cases. As Dr. Dana had said, three cases had been recorded in which a micro-organism had been found, and he therefore thought all cases should be studied in this regard. Rheumatism and heart complications favored the infectious theory.

It might be questioned, he thought, whether, in the cases of chorea which lived, the pathology was exactly the same as that in the cases which died. Nerve-cells had the power of discharging their energy, and consequently of causing spasmodic manifestations under a great variety of conditions; it was not necessary that the cell be irritated by a micro-organism, or an irritant in the blood. It was noticeable sometimes after fatigue and exhaustion; he therefore believed that some cases of chorea must still be regarded as functional, and that we could not lay down for all cases a definite pathology such as was found in cases that died.

Dr. M. Putnam-Jacobi cited two cases published in the last issue of *Brain*, in which the pathological changes had been described, and said it seemed scarcely possible that the ubiquitous bacteria should lie in wait just at the time when the child fell down the cellar, or experienced a strong emotion, which was immediately followed by chorea. Dr. Dana's case seemed to imply a congenital defect in the nerve-centres, indicated by the three canals in the lumbar cord.

Dr. W. R. Birdsall admitted the importance of the pathological findings described by Dr. Dana, but he thought it equally important to give the proper interpretation of those findings. It might be a question whether the chorea had been caused by the lesions, or whether the lesions had not been caused by deranged action in the nerve-centres attending chorea. With functional disturbance in the beginning sufficient to cause convulsive action, it was but natural that vaso-motor paresis should follow, and, in time, more decided vascular changes. He thought a variety of conditions might produce disturbances of a choreic character, and finally lead to the pathological changes described.

He also mentioned a family in which several of the members developed chorea, and the cardiac and exophthalmic symptoms of goitre.

The President made some remarks on the very common presence of chorea, rheumatism, and cardiac symptoms in the same subject, and was disposed to think with Dr. Birdsall that the lesions described by Dr. Dana were to be found in other nervous diseases of a functional nature of considerable duration, although the location of the lesions might not closely correspond.

Dr. Dana closed the discussion, and said he knew of no other disease in which the same pathological changes had been found as in chorea.

## AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

*Second Annual Session, held at the Burnet House, Cincinnati, O., September 17, 18, and 19, 1889.*

William H. Taylor, M.D., President, in the Chair.

After an address of welcome, by Dr. Comegys, of Cincinnati, the following papers were read: "Congenital Sinus of the Urachus: Abdominal Incision, Recovery," with remarks, by Dr. A. Vander Veer, of Albany, N. Y.; "A Case of Extra-uterine Pregnancy: Operation and Recovery," by Dr. L. S. McMurtry, of Danville, Ky.; "Intra-uterine Cord Amputations of the Fœtal Extremities," by Dr. Joseph Price, of Philadelphia, Pa.; "Flap-splitting in Perineorrhaphy, with Special Reference to Tait's Operation," by Dr. X. O. Werder, of Pittsburg, Pa.; "Vaginal Hysterectomy," by Dr. E. E. Montgomery, of Philadelphia, Pa.; "Supra-vaginal Hysterectomy: Extra-peritoneal Dry Treatment of the Pedicle," by Dr. Joseph Price, of Philadelphia, Pa.; "Successful Removal of a Fibrous Tumor of the Right Ovary during Pregnancy," by Dr. J. H. Carstens, of Detroit, Mich.; "A Remarkable Case of Nymphomania," by Dr. W. S. Stewart, of Philadelphia, Pa.; "A Few Considerations on Peritoneal Effusions after Intra-peritoneal Operations," by Dr. W. H. Meyers, of Fort Wayne, Ind.; The President's Annual Address; "Reasons for Drainage in Ovariotomy," by Dr. Hampton E. Hill, of Saco, Me.

On the afternoon of the third and last day the session was given up to the discussion of the subject,

### Is craniotomy justifiable on the living child? and its alternatives.

Listerism received some hard knocks, as did also electricity in gynecology. One gentleman who was especially severe, and a good deal more positive than our science will allow, said electricity was used only by the ignorant, and those who had never been in the abdomen. He cited as a specimen a doctor in his city who was a great advocate of electricity, and he scarcely knew whether the pubis or the sacrum was before. This same speaker, after having vented his venom on Listerism and electricity, turned to compliment a fellow who had agreed with him in his paper, and said he described a case as perfectly as *Mozart* could have *painted* it. If his ignorance of Listerism and electricity was as profound as his familiarity with music and painting, it is not to be wondered that he avoids them. Another antagonist of electricity made a boast that he had not a battery in his office. Drainage was discussed freely, and as a general thing warmly endorsed. One gentleman, Dr. Hill, reported twenty-six ovariotomies in which he used the drainage-tube twenty-four times and had twenty-

five recoveries. He made twelve ovariotomies without losing a case before he ever saw the operation done. His work was highly praised by the members. Flap-splitting in perineorrhaphy was severely condemned. Abdominal surgery was lauded to the skies, and should be limited to the hands of the specialist.

Socially the Association was very kindly entertained. The city of Cincinnati was thrown open to them. Dr. and Mrs. Taylor gave a reception, to which the Association was invited to meet the local profession. This was a very enjoyable occasion, and the Cincinnati doctors made themselves as agreeable as possible. The local members took the Association to see "Montezuma, or the Conquest of Mexico," which was also very much appreciated.

The election of officers resulted as follows: *President*—Dr. E. E. Montgomery, of Philadelphia; *First Vice-President*—Dr. W. H. Meyers, of Fort Wayne, Ind.; *Second Vice-President*—Dr. R. L. Banta, of Buffalo; *Secretary*—Dr. W. W. Potter, of Buffalo; *Treasurer*—Dr. X. O. Werder, of Pittsburg; *Executive Committee*—Dr. A. Vander Veer, of Albany; Dr. C. Cushing, of San Francisco; Dr. W. H. Wathen, of Louisville, Ky.; Dr. C. A. L. Reed, of Cincinnati; Dr. H. B. Hill, of Saco, Me.

The Association on meeting in Cincinnati numbered thirty-eight members of whom twenty were present. Fifteen new members were added at the Cincinnati meeting. Place of next meeting, Philadelphia, third Tuesday, Wednesday, and Thursday in September, 1890.

### THE PRESIDENT'S ADDRESS.

The President, Dr. William H. Taylor, of Cincinnati, in his annual address, congratulated the Association on the success of its first meeting at Washington, and on the valuable publication made, and thanked the medical journals for their kindly comments on the work of the Association. He had experienced much difficulty in finding fit topics for remark before a society where all were pursuing the same line of study and similar work. Among the many suggestions and proposed changes offered the profession many were ephemeral and lost their interest as soon as something newer was presented. Others had a permanent value and were incorporated into the creed and practice of scientific medicine, while some were useful in revealing error, though they may not discover the truth.

One very satisfactory feature of the year's progress in our department of medecine is the successful effort at increased accuracy in diagnosis, and to more definitely determine the indications for operative procedure. The condemnation of laparatomy is much less frequent than formerly, because of more accuracy in diagnosis, and increased experience has determined proper cases for operation.

The recent lecture of Sir T. Spencer Wells and the statistics of Munchmeyer show the propriety of uterine extirpation, and Wells' terse words, "The best means to prevent return is to operate early," must become an aphorism for our guidance; the very essential factor, ability of early diagnosis, is still a desideratum.

The low death-rate of myomata and the great mortality from operation for their removal suggest the propriety of rare resort to such operation. The brilliance of operative procedure obscures other work, and the apparently greater gravity of a case justifying an important operation diverts attention from suffering less severe; such minor ailments are, however, just as needful of care.

Schultz's and Herman's recent publications regarding uterine displacements are likely to improve our management of such cases.

Subjects which seem to be definitely settled are again revived and become the theme of active controversy, of which fact the discussion of the phenomena and conduct of the third stage of labor is an instance. We all know that debate on this topic has continued for several years in Germany, apparently with little benefit either to the combatants or to science, but the subject assumes much practical importance after the statement recently made by Duhressen, that "one woman dies every day in Prussia from post-partum hemorrhage." Remembering that this fatality can occur only among a limited portion of our population this would seem a large mortality. Assuming the period during which it could occur to be between the age of fifteen and fifty, we should have, according to our census reports, one death from hemorrhage after delivery in less than two hundred from all causes among women in the period mentioned.

The great confidence we have had in the usual method of dealing with the placenta might lead us to the belief that we should be exempt from such disaster, but just now our idols are being shattered, and a man as eminent as D. Berry Hart has said, "I consider the Credé the most dangerous plan possible for the separation of the placenta."

With these facts and these statements so much at variance with the generally accepted opinions, certainly it is the part of wisdom to survey the ground carefully upon which our confidence is built.

The very satisfactory results of Cæsarean section, recently, establish it as an operation which must be resorted to if the obstetrician would escape censure, and the success of the Porro operation modification must lead us carefully to determine to which cases it is adapted and to which Saenger is the more appropriate.

Ectopic pregnancy, pelvic suppuration, and craniotomy have occupied such large place in our recent literature, and are to have such consideration in our programme, that it would be superfluous to devote time to their discussion here.

A review of the progress in our branch of medicine during the past decade is a source of astonishment and a cause of congratulation, for no department can show such additions to life and comfort, but I need only make the assertion to elicit your assent that there yet remains very much land to possess. With the intelligent restlessness which characterizes the educated mind we must press forward, and no prophetic power is required to predict that great progress will be made.

The recent advances in all departments of science, and the wonderful practical application of newly acquired facts disarm incredulity, and we dare to place no limit on the possible acquisitions of the near future.

The Utopias of to-day may be the familiar dwelling-places of to-morrow, and actuated by the noble sentiment which so characterizes our profession, of seeking the truth for the truth's sake, we may be sure of grand additions to our knowledge and skill, and I can utter no better benediction than the hope that this Association may bear its full share in making these acquisitions.

Dr. R. B. Hall, of Cincinnati, O., read a paper entitled

### SOME POINTS IN THE DIAGNOSIS OF PYOSALPINX.

The author believes the importance played in the production of suffering by this disease has not received the attention which it merits. The general practitioner sees and treats the great majority of these cases before they are seen by the operator, and if it is hoped or expected to afford relief to a great number of suffering women all over the land the subject of diagnosis must be better understood than at present. The importance of septic infection in the production of inflammatory disease of the uterine appendages is the cause of these diseases in a large percentage of cases. Repeated attacks of acute exacerbations from perhaps trivial causes, finally produce complete closure of the ends of the tubes. As a consequence the normal secretions of the tubes soon become pathological and by repeated attacks of inflammation may become changed into pus, producing the typical pyosalpinx. The speaker is convinced that this affection frequently follows puerperal diseases and gonorrhœal infection, but does not

consider these the most common causes of the disease. He believes pyosalpinx to be contracted in two different ways: (*a*) By a chronic process, causing dropsy of the tube, which, by repeated attacks of inflammation, is changed to pus; (*b*) it may be rapidly produced by an acute process following gonorrhœa and puerperal diseases. A history of almost constant suffering for years, directed to a certain locality, perhaps originating in an attack of pelvic or abdominal inflammation, connected or not with parturition. To this may be added sterility, and we have a most important aid to a correct diagnosis in the history of the case. Diseased appendages can usually be recognized by a vaginal examination, yet this is not always possible. In most cases it is difficult, and in many impossible, to make out the exact disease of the appendages except in cases of pyosalpinx. We usually have an irregular ovoid tumor, showing swellings and contractions not found in any other pelvic tumor but tubal collections. This tumor is generally of small size; it may be in the retro-uterine space extending toward the pelvic brim on the one side, with a second tumor on the other side higher up; or it may be distinctly felt as a narrow furrow, which is occasioned by a portion of the uterine end of the tube remaining undistended by pus, while the distal end of the tube is enlarged to form the tumor. This furrow is not so plainly felt in those cases where there is a periodical discharge of the pus through the tube into the uterine cavity. This is a very valuable sign to help in making a diagnosis. If we have all the other symptoms of pyosalpinx with a history to confirm them, where we can feel the enlarged tube before a discharge of pus from the uterus, and immediately after the discharge has occurred we find that the tube has collapsed, then we have proof positive of the existence of pyosalpinx.

If the previous history of the case be carefully learned and given due weight and consideration, the author believes the diagnosis is not so difficult as usually thought. The uterus is more or less fixed and misplaced. In the majority of cases seen by him there has been pain during defecation—particularly where the tumor occupied the retro-uterine space. Most cases gave a history of dyspareunia. If pain has long been a prominent symptom and it is evident the tube contains pus, the case must be looked upon as serious and demanding prompt relief. Delays are dangerous, as the bursting of the tube may cause fatal peritonitis, and escape should be afforded the offending pus by removal of the tube.

## AMERICAN ORTHOPEDIC ASSOCIATION.

*Third Annual Meeting, held at Boston, Mass., September 17, 18, and 19, 1889.*

FIRST DAY, TUESDAY, SEPTEMBER 17TH—MORNING SESSION.

THE Society was called to order by the President, DR. E. H. BRADFORD, of Boston, who read an address on

AMERICAN ORTHOPEDICS.

DR. V. P. GIBNEY, of New York, read the first paper, entitled

THE TYPHOID SPINE.

He called attention to a group of symptoms pertaining to the spinal column as a sequel to this fever, and as an anatomical diagnosis used the term "perispondylitis," meaning an acute inflammation of the periosteum and the fibrous structures which hold the spinal column together. He gave the details of three such cases, all of which were acute and ran a benign course. As pertinent to this subject he spoke briefly of a similar condition in which the hip was affected, and presented the photographs of a second case in which the thighs were sharply flexed upon the pelvis, and the legs on the thighs, so that the heels touched the buttocks.

DR. L. A. WEIGEL, of Rochester, by invitation, read a paper entitled

THE RELATION OF THE THORACIC AND ABDOMINAL WALLS TO THE SPINAL COLUMN, CONSIDERED WITH REFERENCE TO THE TREATMENT OF ANTERIO-POSTERIOR CURVATURE.

His conclusions were as follows: 1. The spinal column in its general upright position is supported by the abdominal viscera, or rather by the resistance of the abdominal walls. Following the force of gravity, the spinal column sinks downward until a resistance is met with. This resistance may be produced by a direct support upon the viscera, or indirectly by pressure exerted through the elastic thorax and diaphragm upon the abdominal organs, which are thus forced against the muscular walls until an equilibrium of forces is established. 2. By the support which the abdominal viscera give to the spinal column and thorax, the abdominal muscles very materially supplement the action of the erector muscles of the spine, by increasing the resistance which the viscera offer to the forward inclination of the spine and thorax. 3. The backward inclination of the spine is limited by the tense abdominal muscles and the firm linea alba to which they are attached.

DR. DILLON BROWN, of New York, read a paper entitled

PSOAS CONTRACTION AS A SYMPTOM.

He briefly outlined the various diseases in which this condition may be found, and gave their diagnostic points, especial attention being paid to those phenomena by means of which each disease could be excluded.

DR. A. B. JUDSON, of New York, read a paper on

THE PREVENTION OF THE SHORT LEG OF HIP DISEASE.

He set forth the importance of inducing the patient who wears the hip-splint to observe the natural rhythm of the gait in walking, dividing the time on the ground equally between the two feet, or rather between the well foot on one side and the hip-crutch of the splint on the other side. He believes that if the patient, by precept and drill, is induced to walk habitually in this way the affected limb will incline toward abduction, in order to reach the ground and do its share in the work of locomotion. Adduction and flexion, which constitute the dreaded short leg of hip disease, are caused by the patient's efforts to keep the limb off the ground, partly to guard against concussion, and partly to keep the limb out of the way of its fellow, which is charged with the chief part of the work of progression. If the affected limb, protected from concussion by the splint, habitually seeks the ground and is active in locomotion, the cause of adduction and flexion is removed. He cited cases illustrating his views.

DR. BERNARD BARTOW, of Buffalo, read a paper entitled

THE IMMEDIATE DISREGARD OF MALPOSITION OF THE THIGH IN THE TREATMENT OF HIP DISEASE.

He employed the following method in the earlier stage of the disease. It was a fixative dressing of plaster of Paris, which was applied while the patient was suspended, as during the application of the plaster jacket in spondylitis. The well foot is allowed to rest on a block from four to six inches in height, so that the affected limb will, by its own weight, exert traction upon the muscles about the hip-joint. The plaster of Paris is applied over the trunk, hip, and leg, extending above to the sixth rib and below to the middle of the leg. The dressing is strengthened by strips of thin malleable steel. No attention is paid to the malposition, which is gradually overcome by the weight of the leg as different splints are applied, the rest afforded the joint during these intervals removing each time much of the spasm. The author reported his cases, and showed photographs of them.

AFTERNOON SESSION.

DR. C. C. FOSTER, of Cambridge, read a paper entitled

A CASE OF CARIES OF THE ANKLE TREATED CONSERVATIVELY.

After giving a detailed report of the case and its treatment, he exhibited the patient and plaster casts of the foot before and after treatment. He maintained that such treatment is not nearly so quick, so easy, or so striking as a successful resection, but that the final result is far superior, and well repays the extra time and great patience which must be devoted to the case. He did not claim that all cases should be treated in this manner, but that in many cases an intelligent, enlightened conservatism, properly carried out, will produce the best final results.

DR. C. L. SCUDDER, of Boston, by invitation, read a paper (with exhibition of patients) entitled

A REPORT OF CASES OF CARIES OF THE ANKLE TREATED BY EXCISION.

From the study of his cases, he drew the following conclusions: Excision is safe, and the mortality is not great. The convalescence and time of after-treatment are short. The disease in the foot is ended, and the prognosis is sure. Profuse suppuration and its consequences are avoided. The likelihood of septic infection is at a minimum. The partial operation of curetting is of very little value. There is no mutilation of the foot, and its usefulness is very great after excision. The question of tubercular infection after operative interference is yet unsettled. Excision of all the diseased bone should be resorted to earlier in the treatment of chronic ankle-joint and tarsal disease.

DR. JOHN RIDLON, of New York, read the report of a

CASE OF CONGENITAL DISLOCATION AT THE HIP.

The patient, a female, aged ten and one-half years, came under observation nineteen months ago. The right great trochanter was two and one-half inches above Nélaton's line, and it required a blocking under the foot of three inches to make her stand fairly erect. The old pattern of the Taylor extension hip-splint was applied, and the leg elevated on an inclined plane. For one year the child did not leave her bed, and no relaxation of the traction was once permitted. At the end of this time it was possible to locate the head of the femur, which was found to be displaced upward and forward, lying almost directly below the anterior iliac spine, and the difference in the length of the legs was found to be reduced to half an inch. A jointed splint was applied, February 1, 1889, and the patient was allowed up.

DR. J. E. GOLDTHWAITE read a paper prepared with DR. R. W. LOVETT, of Boston, entitled

ABSCESSES IN HIP DISEASE: THEIR PREVENTION, SIGNIFICANCE, AND TREATMENT—A CLINICAL STUDY.

Three hundred and twenty cases were analyzed with reference to the number of abscesses occurring and the effect of treatment. In these cases, seventy-five abscesses occurred, which very small percentage is attributed to long-continued treatment with the long traction splint in the line of deformity, if present, and fixation in bed. The majority of the abscesses occurred in patients in whom there had been insufficient and careless treatment at home. The abscess in fifty-nine per cent. came early in the course of the disease, *i.e.*, within one year of the beginning of treatment, and in forty-four per cent. the abscess came on before treatment had been begun. He concluded that the preventive treatment in hip abscess was an exceedingly important matter, and that the abscess may be averted in a large proportion of the cases under efficient treatment by confinement of the patient to bed when symptoms of deformity or joint tenderness arise. But that when this smaller proportion of abscesses had occurred, in them the mortality was exceedingly high and the prognostic outlook very much more serious than in suppurating hip disease in general. Operation, in all of these cases, was not accompanied by anything approaching septicæmia, nor did it prevent the occurrence of tubercular meningitis or amyloid degeneration; and, finally, it was stated that thorough operation is followed in a fair proportion of all cases by speedy closure of the sinuses, a closure which remains permanent.

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SECOND DAY, WEDNESDAY, SEPTEMBER 18TH—MORNING AND EVENING SESSIONS.

These sessions were devoted to the reading of short papers on hip disease, which were followed by a general discussion of the subject by the members of the Association.

DR. H. G. DAVIS, of Everett, exhibited a

HIP-SPLINT

which showed many valuable modifications of the original splint which he invented many years ago, and which has formed the basis of all the traction hip-splints.

DR. N. M. SHAFFER, of New York, read a paper on

THE PRINCIPLES OF TREATMENT OF HIP-JOINT DISEASE.

He held that hip-joint disease is a tubercular disease characterized by an insidious invasion and by a limp, and a muscular splinting of the diseased joint. The muscular splint, acting in the direction of the long diameter of the muscles, made a direct interarticular pressure, and was nature's method of affording protection to a diseased joint. Dr. Shaffer illustrated the action of traction in protecting a diseased hip by calling attention to the effect of manual traction in a child suffering acutely from hip disease, and he further illustrated the subject by showing that it subjected the patient to severe pain if we used the lever principle, making the joint a fulcrum to overcome the muscular deformity, thereby still further increasing the interarticular pressure. He spoke only on the general principles, and mentioned no particular form of apparatus. He stated that his experience had led him to say that the lever principle of treating hip disease was crude and unscientific. Certainly it was not the correct mechanical principle to apply to an already overburdened and overtaxed joint. And that true rest, real immobilization, and perfect fixation, when these elements were required in the treatment of hip-joint disease, were best obtained by some form of apparatus employing the traction principle.

DR. A. J. STEELE, of St. Louis, discussed

THE EARLY LOCAL TREATMENT.

He said that the earlier correct treatment was commenced, just so much better would be the result. The reason we had fewer deaths, less deformity, and better average results to-day than formerly, was because the cases were recognized earlier, were subjected to treatment at an earlier stage, and because of our improved therapeutics. He said that the members of this Association could not too often or too emphatically instruct the profession at large regarding the serious import of lameness and pain in the child. Our ideas upon the correct treatment of this affection turn upon what we believe to be the pathological process going on within or near the joint. The means by which the needed rest may be furnished the joint, without interfering with the proper hygienic treatment, was obtained, he thought, by the "stretcher splint," which consists of an iron frame covered with canvas upon which the child lies. By movable attachments, extension and counter-extension may be obtained, and the trunk is fixed to the frame by straps. Perfect immobilization can be thus secured, and at the same time the patient may be moved from place to place in the open air and sunlight. He exhibited his apparatus, and stated that cases seen early and thus treated had no abscesses, and obtained useful joints.

Dr. De F. Willard, of Philadelphia, spoke upon

THE OPERATIVE TREATMENT.

His conclusions were: 1. Mechanical measures that enforce strict and long-continued restriction of the joint are preventatives of operative procedures. 2. That an operation is in itself a confession of failure to arrest the inflammation. 3. Antiseptic aspiration of the joint is advisable when it is distended with serum, and sometimes when it is full of pus. 4. Ignipuncture, trephining, and drilling give great relief, provided the focus of disease is not extensive. 5. If in doubt as to the presence of pus, use rest and fixation, and wait; or aspirate antiseptically, and, if no true pus is found, continue the immobilization. Should the aspirator disclose a thin sero-purulent material, continue the aspirations as needed until absorption takes place, or until positive signs of pus are present. 6. When certain that pus is present, and in those cases in which the patient is doing badly, make an exploratory incision, open the abscess, and follow by one or the other of these two plans: (*a*) Wash out the abscess-cavity antiseptically, but on no account attempt, by pressure, to expel the pus, lest fissures be produced in its walls, and bacillary infection occur; or (*b*) continue the exploratory incision down along some sinus, thoroughly examine the joint, and remove thoroughly every particle of tuberculous tissue of both hard and soft parts. 7. Do a formal incision only when the bone disease is found to be too extensive to be removed in any other way. 8. Always follow operative procedures by the most thorough attention to fixation and protection of the joint for years.

Dr. R. H. Sayre, of New York, discussed

EXCISION OF THE HIP.

He said that with proper mechanical treatment, commenced early in the disease, and with good hygienic surroundings, the vast majority of cases recover without excision and recover with limbs as good or better than those resulting from excision. The primary focus of the disease is usually so situated that it cannot all be removed without excising the joint. About half the primary excisions relapse, a number are followed by general tuberculosis, and the result is not equal to that of mechanical treatment. Therefore do not excise in the onset of the disease. The development of an abscess is the last step in nature's process of exfoliating the diseased tissues, and in such cases to excise is a mistake, and the abscess alone requires treatment. In other cases, however, the patient, in spite of treatment, does badly, and it is in such cases that it is necessary for the surgeon to interfere and excise the joint, not delaying until the patient is worn out with fever and suffering from amyloid changes. But, even in such cases, when the diseased tissue is removed, the patient may recover. The author then gave the technique and the after-treatment of the operation.

Dr. A. B. Judson, of New York, discussed

THE TREATMENT OF HIP DISEASE.

He had been unable to recognize the trauma which is said to be caused by reflex spasm. It implies a vicious circle in which spasm causes inflammation, and inflammation, in its turn, causes spasm. He was also sceptical in regard to the alleged counteraction of the muscles by traction. He believed it mechanically impossible to make useful traction on the muscles which cross the line of the joint with adhesive plaster applied over the skin. The great relief comes from the fact that traction is attended by practicable, comfortable, and beneficial fixation of the joint. He raised the question whether we are not responsible for the apathy with which the profession regards the treatment by the hip-splint. We claim so much for it and the things we try to do with it are so mysterious and require such nice and fanciful adjustments that the practical common-sense of the profession in general is likely to continue to neglect an apparatus of the greatest utility and value. He doubted the permanent efficacy of operations on the femur for the correction of any except the most extreme deformities. The angle established in the bone after osteotomy is of course permanent, but he would expect adduction to recur at the point of fibrous anchylosis.

Dr. John Ridlon, of New York, read a paper entitled

FIXATION AND TRACTION IN THE TREATMENT OF HIP-JOINT DISEASE.

He believed that the treatment of inflammation in and about the hip-joint should in a general way be governed by the same principles which govern the inflammation of like character in other parts of the body, and that physiological rest of the inflamed structures is the chief end to be obtained. By physiological rest he meant relief from the performance of the normal functions. The functions of the hip-joint are motion and the sustaining of weight; therefore, as applied to the hip-joint, rest is relief from motion and from the sustaining of weight. The problem, then, would seem to be, in so far as it is possible, to immobilize the joint so long as any inflammation remains. To remove the superincumbent weight until convalescence is well established and to counteract the effect of muscular spasm, so long as that spasm is in any way harmful, are the indications. He discussed the means of fulfilling these indications and urged that fixation should be made as perfect as possible, depending upon the surrounding circumstances of the patient. If traction be used at all, it should be constant and in the same line. Traction at right line at one time and at right angles at another, as is permitted by most forms of traction apparatus, cannot be free from harm, and the push and pull action of all traction hip-splints during locomotion must be seriously condemned.

Dr. V. P. Gibney, of New York, discussed

MECHANICAL VS. OPERATIVE TREATMENT,

and in a very complete comparison gave the indications and limitations of each line of treatment.

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Afternoon Session.

Dr. E. G. Brackett, of Boston, read a paper entitled

AN EXPERIMENTAL STUDY OF DISTRACTION OF THE HIP-JOINT.

The points in this paper include the consideration of the counteracting influence of the bony formation of the joint, of atmospheric pressure, and of the assisting force of ligaments and muscles. In adults, owing to the bony formation of the joint, traction is mainly expended in pulling the most dependent portion of the head of the femur down on the bottom of the acetabulum, which offers a mainly horizontal surface. When separation occurs it is denoted by a widening at the hips as well as by lengthening of the leg. The child's joint offers no such resistance to the traction force, but allows a separation nearly in the line of traction and is shown principally by a lengthening of the limb. Experiments showed that atmospheric pressure played but a very unimportant part in preserving contact while the parts were intact. It was shown that the counteracting force of muscular action was the most important influence, and this must be accomplished either by muscular tonicity or muscular contraction. The claim was not made that distraction is an inevitable result of traction, nor even that it is possible under all conditions, but that this does occur in children under favorable conditions when the power is properly applied.

Dr. John H. Huddleston, of Boston, read a paper entitled

AN ANALYSIS OF TWENTY-ONE CASES OF HIP DISEASE TREATED BY THE THOMAS SPLINT.

No attempt had been made to choose cases for the splint. It had been applied in all stages of the disease, and in some cases it was kept on throughout the course of the disease and in others until the interests of the patient demanded a change. Cases were seen once a month or

oftener and were taken from the ordinary class of out-patients. It was found difficult to fit the splint, and more difficult to fix the splint after being fitted. Of the twenty-one cases, satisfactory notes were obtained in fourteen, and notes sufficient to explain the use and the result of the splint in five more. One patient died shortly after the application of the splint and one had not been heard from. The results obtained were stated as follows: Good position with both flexion and adduction, but great shortening, great atrophy, and very constant elevation of the trochanter above Nélaton's line with a remarkable percentage of abcesses.

The Society then inspected the Boston Children's Hospital, and were shown by Dr. H. L. Burrell many cases of great interest.

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THIRD DAY, THURSDAY, SEPTEMBER 19TH—MORNING SESSION.

DP GEORGE W. RYAN, of Cincinnati, read a paper entitled

WHEN MAY TREATMENT BE DISPENSED WITH IN SPONDYLITIS?

It was a matter which had a wide interest to every orthopedic surgeon, and was never an easy question to determine. He believed that as a rule the orthopedic surgeon left the apparatus on too long, and that the general surgeon removed it too early. He had seen many cases of spondylitis in which the appliance had been removed too early, and many others in which he was satisfied that it was kept on too long. He stated that a slight increase in a kyphos which is already well marked makes a very great change in the gait, the appearance, and the growth. He believed that when the disease was no longer present the appliance was a foreign body and retarded muscular growth and exercise. He believed that no general rule could be laid down concerning the time when treatment could be dispensed with, but that some indications might be pointed out. He thought that the type of patient largely influenced the course of the disease. Absence of pain was of little value, as efficient support always relieved that. The speaker often found the compensating depression beneath the kyphos indicative of cure. Many cases of cervical and lumbar disease get well without treatment and with fairly good results. The matter requires a great deal of care, and the appliance should be slowly dispensed with. Massage, cold baths, and faradism were of great service at this time.

DR. W. R. TOWNSEND, of New York, read a paper entitled

ACUTE ARTHRITIS OF INFANTS.

It was essentially an osteo-myelitis, the difference in pathological conditions being largely due to differences in anatomical conditions and relations of the epiphysis to the joint. Various forms of staphylococci were found in some cases, notably *S. aureus* and *albus*.

The symptoms are quite constant—flexion of the joint, production of abscesses, involving the joint and soft parts, and constitutional symptoms of pyæmia. The treatment was early and complete evacuation of the inflammatory products and heart-stimulants and tonics. Most cases occur in patients under one year of age, and about fifty per cent. of them result fatally. He reported seventeen cases, and from the experience of these and others found that the joints most affected were the hip, knee, and shoulder.

DR. A. J. STEELE, of St. Louis, showed a

NEW EXERCISE IN THE TREATMENT OF LATERAL CURVATURE OF THE SPINE.

He showed an apparatus for fixing the feet firmly to the ground, thus securing fixation both below and above.

The Secretary read a paper by DR. T. H. MEYERS, of New York, reporting a case of

TRAUMATISM OF THE HIP SIMULATING THYROID DISLOCATION.

It was the result of a fall in a child nine years of age. The patient struck upon the left hip and the injury was immediately followed by a limp, but little pain, and presented the following condition: The patient stands with the left thigh advanced, the knee slightly flexed, and the foot in equinus with 45 degrees of outward rotation of the thigh. In the supine position there was flexion at the hip of 160 degrees and abduction of 30 degrees; and when the legs are approximated the left leg is apparently one and one-quarter inch longer than the right, but there is no real difference in the length. There is marked depression over the trochanter major, and the trochanter is three-eighths of an inch above Nélaton's line. On flexing both thighs to 90 degrees the left knee is an inch higher than the right, but all these facts seem to be due to the abduction. Adduction and extension are impossible. Rotation, abduction, and flexion are allowed to a considerable extent, and when limited there is not the reflex spasm of joint disease. Under ether the flexion and abduction disappeared, but adduction and extension were still restricted. It was probably a separation to a greater or less degree of the cotyloid ligament and the bone.

DR. V. P. GIBNEY, of New York, presented a paper entitled

A CONTRIBUTION TO THE STUDY OF FLAT-FOOT.

In some cases painful flat-foot was accompanied by ingrowing toe-nail, and he reported one case and referred to two others in which the removal of the offending nail resulted in a marked improvement in the condition of the flat-foot.

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AFTERNOON SESSION.

DR. N. M. SHAFFER, of New York, read a paper entitled

THE TREATMENT BY PORTATIVE APPLIANCES OF UNUNITED FRACTURE OF THE FEMUR.

The writer reported three cases. In the first a long traction splint with a felt coaptation splint was applied and traction was maintained, the patient walking about on it in the meantime. In two and a half months it was united, with three-quarters of an inch of shortening. The second was also a case of ununited fracture of the shaft of the femur, following treatment by Buck's extension. The long traction splint was applied, and this was followed by a traction splint which permitted knee-joint motion and also independent traction to the thigh and leg. In this way passive motion to the knee was given during treatment and the union was completed in two months, with practically no shortening. In the third case there was an ununited fracture of the neck of the femur, with three inches of shortening. A traction splint like that in the second case was applied, with the addition of a "surcingle," which was buckled tightly about the trochanter. Union was completed in three months, with five-eighths of an inch of shortening.

DR. R. W. LOVETT, of Boston, reported

A CASE OF FUNCTIONAL TORTICOLLIS, PROBABLY DUE TO DEFECTIVE EYESIGHT, WITH EXHIBITION OF PATIENT.

The patient was three years of age, and the torticollis was noticed by the parents six months before the patient came under treatment. There was an internal strabismus, and as soon as the recti were cut there was a decided improvement in the wry neck. The recovery from the torticollis was not complete, but, as a slight internal strabismus still remains, it was expected that after another operation for the insufficient recti the recovery would be complete.

Dr. W. N. Bullard, of Boston, read a paper, prepared in conjunction with Dr. H. L. Burrell, the title of which was

OPERATIONS UPON THE SPINE FOR THE RELIEF OF PRESSURE PARALYSIS.

Twelve cases were reported, and the summary was as follows: Contra-indications—1, Those cases in which an operation would not be advisable, from the general health or other general surgical considerations; 2, the presence of tuberculosis in other parts of the body; 3, the presence of an abscess with the caries which can be otherwise evacuated; 4, acute exacerbations without symptoms referable to the cord, and not threatening life. The indications in favor of an operation were: 1, General good conditions and favorable surroundings—(*a*) when the disease is gradually and slowly progressing to an unfavorable termination, and (*b*) when the patient has more or less loss of motion and sensation in the portions of the body below the level of the lesion and incontinence of urine and fæces, and when these conditions have lasted for a sufficient length of time to render spontaneous recovery improbable, and not so long as to produce permanent destruction of all recuperative power in the cord; 2, when acute symptoms threatening life appear, and when there is reasonable expectation that they may be relieved by the removal of the compression.

Dr. Homer Gage, of Worcester, by invitation, reported

A CASE OF CONGENITAL ABSENCE OF FIVE RIBS, WITH RESULTING DEFORMITIES.

The sixth to tenth inclusive on the left side were absent, and in consequence of their absence there had developed a rotary lateral curvature of the spine, a hernia of the stomach, and a displacement of the heart on to the right side. Photographs showing these conditions accompanied the paper.

It was decided to hold the meeting next year in Philadelphia, and the following officers were elected: *President*—Dr. De F. Willard, of Philadelphia; *First Vice-President*—Dr. A. J. Steele, of St. Louis; *Second Vice-President*—Dr. A. B. Judson, of New York; *Secretary and Treasurer*—Dr. G. W. Ryan, of Cincinnati; *Corresponding Secretary*—Dr. Samuel Ketch, of New York.

The following statement was adopted as expressing the opinion of the Association in regard to the treatment of hip-joint disease: 1. In the painful stage, complete rest to the joint is of the first importance. 2. Early excision is to be condemned. 3. The weight of the body should be removed from the affected joint until complete recovery has taken place. 4. Traction is an important element of treatment.

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Some Domestic Remedies in the Transvaal.—Mr. Walter H. Haw, in a letter to *The Lancet* upon medical practice in the Transvaal, gives the following list of remedies in which the Boers have the most implicit faith, and to which they recur in many of the ills of themselves and their families: 1. Cow-dung poultices. 2. Stink blaar (*Datura stramonium*) leaves applied for the relief of pain. These act well, and are often used. 3. Prickly-pear leaves skinned and applied. 4. For children: A young goat killed and opened, the child being put in bodily after removal of the viscera. A good poultice, I fancy. 5. Rimpis (threads) of eel-skin worn round the painful joints in chronic rheumatism. This was described to me by a man who was wearing one round almost every joint of his body as being a splendid remedy. 6. Rimpis of the tanned skin of a tame goat worn as above for sprains, etc. 7. The finely chopped hair of a black cat, which should not have the faintest trace of white about it. A remedy for convulsions. 8. A spoonful of dog's blood taken from the ear for "buur en de mag" (inflammation of the bowels). 9. For snake-bite, repeated fowl poultices.

# New Instruments.

## THE QUESTION OF THE POCKET-CASE.

By ROBERT H. M. DAWBARN, M.D.,

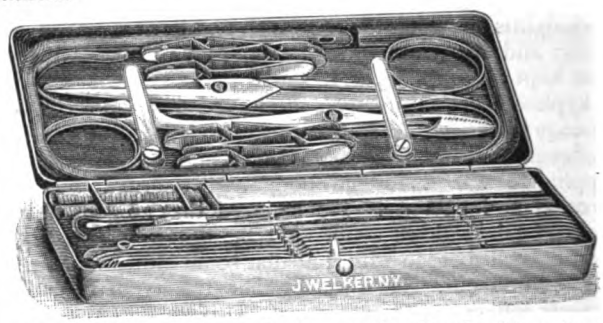
LECTURER IN OPERATIVE SURGERY, NEW YORK POLYCLINIC.

In common with many others I have felt interested in the letters from various medical men which have appeared in these columns of late, discussing the question of the ideal pocket-case for surgical instruments. Considerable space in these communications has been devoted to the case itself, and not so much as I could have wished to its contents.

This is a subject upon which I have had to think somewhat, for each year there are a dozen or more men about entering professional life who ask me, as their preceptor, what is best for them to purchase at the outset in the way of tools of the trade, so to speak.

It is an unfortunate fact, which I think no surgeon will deny, that the pocket surgical cases and contents now on the market are, almost without exception, an abomination in the eyes of the surgically cleanly; and the instruments are, furthermore, in many respects inefficient in point of proper selection to meet the needs of any emergency operation much graver than lancing a boil.

Surgery has advanced; but, with few exceptions, the cases we carry upon our persons are those familiar to our fathers.




The leathern receptacle is prettily lined with velvet, and cannot by any possibility become purified when, in process of time, it has become strong with sweat and grimy with dust which a tap of the finger will bring forth from the lining.

Into this the instruments go. And what instruments! The knives have baby-blades—fit only for playing at surgery. There is the inevitable curved, sharp-pointed bistoury, the pet of those whose idea of surgery is to stab in the dark and cut out. Of course no one is brutal enough nowadays to incise a felon or a boil without some kind of local anæsthesia; hence this bistoury loses its one poor excuse of completing at a stroke its incision when the patient in agony shrinks suddenly away from the surgeon. These knives, at the best, have some patent arrangement whereby, although they close up, the blade can be detached, permitting the handle to be cleansed—with difficulty. And at the worst, and usually, they are as hard to disinfect as the ordinary pen-knife.

Sometimes we actually find the jointed metallic catheter in our case. A little use always makes its joints misfits. I wonder how many physicians would be willing to have their water drawn by one of these things which was not fresh from the instrument-maker?

Will someone of an intellectual turn of mind inform me why it is generally considered *de rigueur* to limit the number of artery-forceps in the pocket-case to one? Out of dozens of these cases I have never seen any with more than two hæmostatic forceps, which number is all too little. If an emergency case demands treatment of hemorrhage at all, it will almost surely need more than one or two clamps for bleeding vessels. The custom, I find, is to kill two birds with one stone by making the other end of the artery-forceps a needle-holder—or some-

thing else—and the combination is, of course, difficult to clean.

In this latter regard I cannot refrain from expressing my admiration equally for the business thrift which induces the instrument-dealers to stamp their names as an advertisement into the metal of our tools, and for the Christian resignation with which a long-suffering profession has tolerated this means of propagating filth. If a surgeon's time is of any value he does not wish to waste it in digging particles of foreign matter with a needle out of the letters stamped into his scalpels and scissors, and which the brush will not entirely remove; and if he is not thus careful he will probably have "laudable pus" in his wounds—to his shame.

How about our ligatures and sutures? These we shall find in the form of a strand of silk wound on a card and placed in a pocket of the case. Woe to the wound!

The essence of primary antisepsis is asepsis, and asepsis is strict cleanliness. Therefore let us use only tools which are easily kept surgically clean. If possible, we should have each tool of one piece of smooth metal, shaft and blade. If two parts are essential, these should be smooth too, and easily detachable for cleansing. Cross-hatching upon handles, etc., is worse than useless. The idea, of course, is to give security to the grip; but no one needs to grip these instruments.

To surgeons all the foregoing will be trite, and as a many-times-told tale. But that it needs repetition for the profession as a whole a visit to the nearest instrument-shop will convince anyone. The dealers keep in stock what is found still salable.

Among the correspondents of THE MEDICAL RECORD is one gentleman who advocates a case made of chamois-skin, as being easily cleansed by washing, and readily made at home. This is a step in the right direction, but has two objections: First, the bulk is about as great as that of the leathern wallet; second, with the scalpel which I have advocated, and which is not a claspknife, the blade would probably cut its way through the chamois-skin.

My object in writing this article is not alone to criticise; it is also to offer a case of my own for criticism, and, I hope, for approval. First let us discuss the case, then its contents.

I. An ideal case should be of smooth, plated metal, that it may be easily cleansed; may be boiled, if thought desirable. It should not be appreciably heavier than the leathern pocket-case; hence the metal must be very thin. It should be as small as possible, and of such a shape as not to cause the pocket in which it is carried to bulge, and thus make a coat fit badly.

These points are covered in my case. Of course the idea of a metallic case is not new. It originated in Germany, I believe. But generally they are too thick and heavy. They should be as wide as the top waistcoat-pocket will carry, and this width permits them to be of less depth than otherwise.

The cut of the case shown herewith is, of course, reduced in size. The actual case has no name upon it (differing from the cut), neither is there a name or an unnecessary scratch upon any instrument. A close-fitting chamois-skin cover goes over the case, for use, if thought best, to prevent the slipping of so smooth an object from the pocket.

The case and instruments are made by Welker, next door to the Polyclinic.

II. The following is the list of instruments: 6 stout artery-clamps; 1 pair of scissors, straight, with French-lock; 1 needle-holder (French-lock), which is also a dressing-forceps and a sequestrum-forceps; 1 very narrow-bladed scalpel; 1 straight, blunt-pointed bistoury; 1 pair of two-hooked retractors; 1 Peaslee's needle (long, with handle, eye in point); 2 pairs of dissecting-forceps; 1 metacarpal saw; 1 Volkmann's sharp spoon, medium size; 1 grooved director and aneurism-needle; 2 silver probes, one of them eyed; 1 small metal box with tight cover—this contains a silver *porte-caustique*, an assortment of needles, including Hagedorn's, and in a small compartment a few bichloride tablets wrapped in rubber-tissue; 2 bottles, tightly corked, in a metal frame; one contains catgut, the other silk, each tightly wound on a small reel, and in an antiseptic solution; 1 rubber soft catheter, medium size. This serves three purposes: that of a catheter, a means of bloodless operation upon the smaller members, and, in the case, as a buffer, preventing by elastic pressure any noise or rattling of instruments.

The knives have long blades and as short handles as compatible with good work. No more than one good scalpel is really needed in an emergency pocket-case; and the surgeon can do things with a narrow-bladed scalpel that he could not with a wider blade—can use it as a tenotome if he needs one.

It seems to the writer that, considering the object we have in view, the list given about covers the ground. As the instruments are all made as light as possible, the total weight is trifling. If more were added the case would have to be larger, and would then become clumsy and bulky, like the leather one. And I hardly think that any of these tools could well be spared. It has been suggested that one pair of thumb-forceps is enough. But when working in a dangerous region it is safer to use two pairs of forceps than a grooved director, in many cases.

In the bottles the antiseptic liquid preferred is—following the experiments of Dr. G. de Ruyter—one composed of a saturated solution of bichloride-washed iodoform in equal parts of alcohol and ether. The silk is first boiled in a 1 to 500 watery solution of mercuric bichloride, and is then immersed and kept in the iodoform-alcohol-ether. The commercial catgut is first placed for a few days in ether, to remove all the fat thoroughly from its pores, and is then immersed in the same solution (iodoform-alcohol-ether) and kept there permanently. I know of no method compatible with strict antisepsis whereby the strength of catgut and silk is better maintained.

There are very few operations, except some unusual ones upon bone, which really need other mechanical aid than the contents of this case and one or two things always at hand. Exsanguination of a major member needs no Esmarch apparatus in an emergency; elevation and "milking" of the limb, followed by the thorough application of the extemporized "Spanish windlass" suffices admirably. A clean sheet is always to be had; and torn in pieces of proper size, and bichloride-soaked, makes pledgets in lieu of sponges, and also supplies dressings. Still other rolled-up strips of the sheet form bandages.

Bichloride tablets we have, wherewith to disinfect hands, patient's skin, and the dressings, and to irrigate. The instruments, being scrupulously clean, need only be put in pure water. If this needed demonstration, Mr. Lawson Tait has demonstrated it.

There is no need to carry or procure carbolic acid. Carbolic acid is at present little more than a means whereby surgeons testify to their distrust of their assistants, therewith trying to sterilize dirt upon instruments which may have been carelessly cleaned.

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EFFECT OF CANNON-FIRING ON THE EIFFEL TOWER.—Of all the indispositions (and there are many) created by the Exhibition, the most curious is that which is caused by the firing of the cannon on the Eiffel tower. Every evening, at ten o'clock, when the gun is fired for the last time in the day, it is not unusual to see produced a sort of frenzy among the young female visitors to the Exhibition. Under the already strong impression produced by the illuminations, the luminous fountains, etc., when the gun is fired, they seem to be seized with a veritable panic. It appears to them that a sudden catastrophe, such as a great fire, has taken place. Cries of admiration escape from some, and of terror from others, when fainting, attacks of hysteria, and of prostration occur. The subject has attracted the attention of Professor Charcot and other physicians.—Paris Correspondence of *The Lancet*.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 6 to October 12, 1889.*

STEINMETZ, WILLIAM R., Captain and Assistant Surgeon. Ordered for examination for promotion. Par. 3, S. O. 236, A. G. O., October 10, 1889.

CARTER, EDWARD C., Captain and Assistant Surgeon. Granted leave of absence for twenty days. Par. 6, S. O. 234, A. G. O., October 8, 1889.

SMITH, A. K., Lieutenant-Colonel and Surgeon. Leave of absence extended twenty-one days, on surgeon's certificate of disability. Par. 7, S. O. 234, A. G. O., October 8, 1889.

MUNDAY, BENJAMIN, Captain and Assistant Surgeon. Granted four months' leave of absence. Par. 2, S. O. 233, A. G. O., October 7, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 12, 1889.*

BRIGHT, G. A., Surgeon. Detached from temporary duty at the Naval Academy, and placed on waiting orders.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 12, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 85 | 8 |
| Scarlet fever | 36 | 4 |
| Cerebro-spinal meningitis | 0 | 0 |
| Measles | 8 | 1 |
| Diphtheria | 73 | 19 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

PULMONARY DISEASES CAUSED BY DUSTY OCCUPATIONS.—Dr. Kunze, in his inaugural thesis for the M.D. degree of the University of Kiel, publishes as a contribution to the diseases caused by the inhalation of dust a series of examinations of lungs so affected. In all these dust was found microscopically, and after chemical tests in the various anatomical and histological parts of the lungs and in the interior of the lymphatic vessels, numerous leucocytes were found covered with the dust. Being arrested in its progress it causes inflammation, producing hyperplasia of connective tissue, especially where a dense net-work of lymphatic vessels exists. Dr. Kunze also proved that the degree of alteration in so-called "dust lungs" depends not merely on the quantity of the dust inhaled, but also on its greater or less morphological power of injuring the tissue. He concludes from his experiments that even the greatest alterations in these lungs—such as nodes, indurations, and vomicæ—are mainly produced by the inhaled dust, and that tuberculosis is only an occasional coincidence. The least serious alterations in the lungs resulted from the inhalation of lamp-black, the particles of which are very fine and little injurious; the most serious, from the dust inhaled by earthenware manufacturers and stone-masons. The lungs of a locksmith showed only a moderate hyperplasia of connective tissue, the dust consisting partly of the finest particles of iron. In a worker in oxides of iron the lungs were found full of small granules, and the morbid changes in the tissues were very considerable. The lungs of gold miners were generally indurated and atrophied; the dust in these cases is exceedingly fine. Sand produced numerous circumscribed hard nodules and thick indurations. In cloth manufacturers the lungs, in spite of the contact with an enormous quantity of organic dust, presented but few indurations. In the lungs of two stone-masons induration and tuberculous disintegration were observed; all the other lungs were entirely free from tuberculosis of any kind, an observation which was verified by the absence of tubercle bacilli in the mucopus in the vomicæ.—*The Lancet.*

AMERICAN PUBLIC HEALTH ASSOCIATION, 1889.—The American Public Health Association will convene at Brooklyn, N. Y., Tuesday, October 22d, at 10 o'clock A.M., and continue four days. The meetings will be held at the Brooklyn Institute. The Executive Committee have selected the following topics for consideration at said meeting: I. "The Causes and Prevention of Infant Mortality." II. "Railway Sanitation. (*a*) Heating and ventilation of railway passenger coaches; (*b*) water-supply, water-closets, etc.; (*c*) carrying passengers infected with communicable diseases." III. "Steamship Sanitation." IV. "Methods of Scientific Cooking." V. "Yellow Fever. (*a*) The unprotected avenues through which yellow fever is liable to be brought into the United States; (*b*) the sanitary requirements necessary to render a town or city proof against an epidemic of yellow fever; (*c*) the course to be taken by local health authorities upon the outbreak of yellow fever." VI. "The Prevention and Restriction of Tuberculosis in Man." VII. "Methods of Prevention of Diphtheria, with Results of such Methods." VIII. "How far should Health Authorities be permitted to apply known Preventive Measures for the Control of Diphtheria?" IX. "Compulsory Vaccination." X. "Sanitation of Asylums, Prisons, Jails, and other eleemosynary Institutions." *Partial list of papers to be presented.*—The following is a partial list of papers to be presented—a full list will appear in the daily programmes: "Address of Welcome," by Hon. Alfred C. Chapin, Mayor, on behalf of the City; "Address of Welcome," by Alexander Hutchins, M.D., on behalf of the Medical Profession; "President's Address," by Professor Hosmer A. Johnson, M.D., Chicago, Ill.; "The United States Census in its Relation to Sanitation," by Dr. John S. Billings, LL.D., Major and Surgeon U.S.A., Washington, D.C.; "Recent Researches relating to the Etiology of Yellow Fever" (illustrated with the stereopticon), by George M. Sternberg, M.D., Major and Surgeon U.S.A., Baltimore, Md.; "More Yellow-Fever Problems," by Jerome Cochran, M.D., State Health Officer, Montgomery, Ala.; "Forms of Statistics," by Henry B. Baker, M.D., Secretary State Board of Health, Lansing, Mich.; "A Suggestion for the Limitation and Detection of Adulterations in Food and Drink," by Henry Leffmann, M.D., Philadelphia, Pa.; "The Prevention of Consumption," by J. N. McCormack, M.D., Secretary State Board of Health, Bowling Green, Ky.; "The Necessity for a More Rigorous Inspection of Meat-producing Animals at the Time of Slaughter," by D. E. Salmon, D.V.M., Chief of Bureau of Animal Industry, Washington, D. C.; "The Causes of Infant Mortality," by Dr. R. O. Beard, Assistant Commissioner of Health, Minneapolis, Minn., and Professor of Physiology in the Medical Department of the Minnesota State University; "Causes and Prevention of Infant Mortality," by Jerome Walker, M.D., Brooklyn, N. Y.; "The Utilization and Purification of Sewage," by John H. Rauch, M.D., Secretary State Board of Health, Chicago, Ill.; "The Art of Cooking," by Edward Atkinson, LL.D., Boston, Mass.; "New Method of Dealing with the Dead" (illustrated with the stereopticon), by Rev. Charles R. Treat, New York City; "Report of the Committee on the Disposal of Garbage and Refuse Matter," by S. S. Kilvington, M.D., Commissioner of Health, Milwaukee, Wis.; "A Suggested Minimum Basis of Compensation to

Local Health Officers," by George Homan, M.D., Secretary State Board of Health, St. Louis, Mo.; "Do the Sanitary Interests of the United States demand the Annexation of Cuba?" by Benjamin Lee, M.D., Secretary Pennsylvania State Board of Health, Philadelphia.; "Railway Sanitation," by Samuel W. Latta, M.D., Medical Examiner Pennsylvania Railroad Voluntary Relief Department, Trenton, N. J.

PUNISHED FOR MAKING AN INCORRECT DIAGNOSIS.—A surgeon of high rank in the French military service was recently retired on a pension because he had treated a soldier for mental disease who was in reality suffering from the results of a beating at the hands of one of his comrades.

SOME CHINESE DOCTORS.—Colonel Cheng-Ki-Tong, military attaché of the Chinese Embassy in Paris, has written several books to instruct the Western barbarian concerning the ways and customs of the inhabitants of the Flowery Kingdom. In one of them he relates some tales of medical practice in that land, the two following being noted by the *Medical Recorder:* A certain physician having advertised that he had an infallible remedy for curvature of the spine, a hunchback applied to him and asked if he could straighten his back. The doctor undertook to do so, and placed the unfortunate patient on his back on a flat board. He then placed a similar board on his chest and abdomen, and loaded it with heavy weights and stones. The result of this novel orthopedic surgery was that the patient was straightened out so effectually that he died on the spot. The quack claimed his fees on the ground that he had kept his promise; the bargain was that he should straighten his patient's back, but nothing had been said about his life! In China, it appears, the distinction between physicians and surgeons is more sharply defined than with us, and every man is expected to stick to his own branch of the profession. A rich merchant was struck by an arrow, which remained fixed in the wound. The principal surgeon of the place was sent for, and after insisting on pocketing his fee in advance cut off the projecting end of the arrow, leaving the point buried in the patient's body. On being asked to extract it, he said medical etiquette would not allow him to trespass on a brother practitioner's province; the arrow being inside the body, the case was clearly one for a physician!

SPONTANEOUS RUPTURE OF THE HEART.—Dr. Mallet, of Paris, described before the Société Anatomique of that city a case of this accident which occurred last May in the Hôpital Tenon. The patient was a man aged seventy-nine, with pulmonary disease. He died suddenly after rising to micturate. A rent, almost vertical and over two inches long, was discovered in the anterior aspect of the wall of the left ventricle. The pericardium was full of blood, the aorta atheromatous, and the left coronary artery nearly obliterated. All the valves were normal. Dr. Mallet quotes Odriozola's statistics of spontaneous rupture of the heart. That observer could only collect 176 authentic cases. In many instances the patient was old, being between sixty and seventy years of age in 36, and between seventy and eighty in 45. The accident appears most frequent in women. As a rule, the escape of blood into the pericardium is considerable. The rent in the wall was unusually large in Dr. Mallet's case. In nearly every instance in Odriozola's statistics the rupture was in the anterior part of the left ventricle. The original report of the case deserves study. The rupture apparently took place fifty-three hours before death, when the patient was seized with dyspnœa and epileptiform convulsions marked in the upper extremities; his face turned pale. The exertion of rising to micturate caused immediate death, probably by sudden escape of blood into the pericardium. A similar history has been recorded in other cases of spontaneous rupture of the heart.—*British Medical Journal.*

FORMULÆ FOR THE USE OF CREOLIN.—During the last few years none of the more recent remedies has had such a rapid success as creolin, identical with a patent fluid, of which a refined preparation has been named "Liquor Antisepticus." When creolin was suddenly recommended in Germany as an unsurpassed non-poisonous disinfectant, many voices were heard which objected to the use of a remedy that was a "patent article;" but the hesitation was soon overcome when it was found that the preparation really fully deserved the claims made for it. In many hospitals, clinics, and in private practice, creolin has completely superseded the use of corrosive sublimate, carbolic acid, iodoform, etc., in antiseptic surgery. Authorities like Von Nussbaum, Von Esmarch, Professor Fröhner, Dr. Kortum, have given such favorable verdicts on creolin that it has now become a generally used disinfectant—for instance, for sterilizing instruments before operations, for irrigation of wounds after operation. Creolin is especially convenient for the disinfection of the hands. In the ophthalmic, aural, and gynecological practice its use has become general. For prevention of the formation of pus, and for deodorizing large carcinomata, profusely discharging ulcers, creolin has proved very successful. The following are the daily formulæ in Germany (*The Provincial Medical Journal*):

*No. 1.—Solutio Creolin (half per cent.).*

℞. Creolin..... ♏ x.
Aquæ dest..... ʒ iv.

Sig.: To be shaken before use. For the irrigation of wounds, impregnation of tampons, moistening of bandages, etc. Also for washing the genitals, and for syringing the uterus and vagina after delivery.

*No. 2.—Solutio Creolin (two per cent.).*

℞. Creolin..... ʒ j.
Aquæ dest..... ʒ vj.

Sig.: To be well shaken before use. For the preparation of poultices and all dressings, for sloughing wounds, and for the disinfection of hands and instruments; also as a hæmostatic.

*No. 3.—Injectio Creolin.*

℞. Creolin..... ♏ ij. to x.
Aquæ dest.....ad ʒ iv.

Sig.: The injections. As an injection for gonorrhœa, leucorrhœa, and catarrh of the bladder.

*No. 4.—Pulv. Creolin.*

℞. Creolin..... ♏ xxv. to ʒ j.
Acid. boracic..... ʒ iij.

Sig: Antiseptic powder. For dry bandaging; for eczema in the neck or nose.

*No. 5.—Oleum Creolin.*

℞. Creolin ..... ♏ xv.
Olei olivæ..... ʒ ij.

M. Sig.: Antiseptic oil. For inunction of the hands in gynecological practice.

*No. 6.—Pilula Creolin.*

℞. Creolin..... ♈ xvij.
Extract. et pulv. glycyrrh.....ää q. s.

Make 100 pills. Coat with collodion. Sig.: Two pills to be taken night and morning.

*No. 7.—Ungt. Creolin.*

℞. Creolin..... ♏ xij.
Lanolin..... ʒ ss.
M. F. ungt.

CONJUGAL DIABETES.—Dr. Debove read a note at the Société Médicale des Hôpitaux on the coexistence of diabetes in the husband and in the wife. Of fifty cases of diabetes, Dr. Debove observed five which existed simultaneously in the husband and in the wife. The same coincidence was established by Dr. Lecorché, who thought that this coincidence can only be explained in two ways: by the use of the same defective alimentation, or by the cares of life shared in common by husband and wife. Dr. Debove said that he could not accept this explanation, as women, from the nature of their habits and the exigencies of their sex, do not live exactly as their husbands. Hence it

is that gouty couples are rare. He would therefore ask if diabetes were contagious; but for the present we must rest contented to register the fact. If new facts should show that conjugal diabetes is not a simple coincidence, it is only then one could propose a theory, which for the moment would be premature. Five or six other members also cited one or more cases in which they observed the coexistence of diabetes in the husband and wife.—Paris Correspondence of *The Lancet.*

Iodine in the Treatment of Warts.—According to Dr. Imossi, the tincture of iodine, given to adults in doses of ten drops twice daily, has proved very successful in preventing the further development of warts, and causing those already present to disappear. Dr. Imossi noticed, in the ten cases which had come under his observation, that the treatment produced striking emaciation, a fact which he has since turned to account in the treatment of obesity. He has thus succeeded in procuring a diminution of weight of about twelve pounds in three weeks.

Treatment of Gonorrhœal Rheumatism.—Dr. Buffet, of Elbeuf, has published some interesting observations on the course and treatment of gonorrhœal rheumatism, and concludes his paper with the following considerations: 1. Gonorrhœal rheumatism, often monoarticular, may affect several joints. 2. The small joints may be affected as well as the larger joints. 3. The malady may attack the tendinous sheaths, muscles, nerves, and cellular tissue. 4. The clinical difference with articular rheumatism consists in the absence of fever, of sweats, and in the fixity and the tenacity of the lesions. 5. The malady may terminate by anchylosis, suppuration, or by muscular atrophy. 6. The treatment reduces itself to placing the limbs in a good position, employing revulsion, massage, and electricity. The salicylate of soda and the anti-gonorrhœal medication have no action whatever.

Vaccinal Syphilis.—On August 6th last, Dr. Hervieux, director of the vaccination department at the Academy of Medicine, reported that five cases of vaccinal syphilis had come under his observation among the children that had been vaccinated at the Academy. The most minute inquiry could not discover the source of the accident, as the two subjects from which the vaccine lymph was taken were, to all appearances, perfectly healthy. Dr. Fournier, the well-known syphilographer, however, believed that he found in one of the subjects some induration of the epididymus and of the testicle, which would lead to the supposition of the existence of hereditary syphilis. The anti-vaccinators would, of course, try to make good capital out of this unfortunate, though happily extremely rare, circumstance, and would denounce the whole system of vaccination as being most dangerous to public health. But Dr. Hervieux, anticipating this, declared at the Academy that for the sake of a few regrettable cases vaccination, whether in man or animal, should not be condemned, when it is considered that millions of persons have been benefited by vaccination since its discovery by Jenner. A short time ago a few cases of suspected vaccinal syphilis occurred among some children who had been vaccinated at Motte-en-Bois, in the Department of the North. An inquiry was held, and Dr. Hervieux read the report at the last meeting of the Academy of Medicine of the result, from which it would appear that it was a false alarm, that nothing proved that the accidents or ulcerations which appeared on the children's arms were of a specific character. The appearance of the ulcerations eight or ten days after the vaccination would show that one was in presence of ordinary non-syphilitic accidents.

Deaf-mutism.—In a very interesting note by Dr. Baratoux (Paris) on deafness, the writer makes out that there exists more than 200,000 deaf-mutes spread all over the surface of the globe. For France, the proportion is 6.25 deaf-mutes per 10,000 inhabitants; and in 1880 the enlisting committee of the Department of the Seine had to reject sixty-seven young men affected with diseases of the ears, while only sixty were rejected for pulmonary phthisis, and sixty-five for diseases of the heart. It is lamentable to think, says the author, that more than half of the cases of deafness proceed from the negligence of the laws of hygiene, and can be easily prevented if proper measures be taken to remedy the morbid causes which prepare the deaf-mutes. It has been demonstrated that, notwithstanding certain statistics, deafness at birth is rare, that it represents at the most one-fourth of the total number of deaf-mutes. But it is in the early part of the life of the child that the deafness most frequently occurs, resulting from lesions more or less unperceived, and thus appears to be congenital. Deaf-mutism at birth is caused by consanguineous marriages, marriages between deaf-mutes, and certain fœtal malformations little known. Infantile deaf-mutism is caused by lesions which may be produced by the improper application of the forceps, nasal catarrh of the new-born babe, falls on the head, tight compression of the ear by a cap, exposure to cold, negligence of cleanliness, introduction of foreign bodies into the ear. Among the causes of deaf-mutism, heredity plays a rôle much less important than is generally supposed. The proof is that deaf-mutes almost always give birth to children who hear and speak well. The proportion rises a little when one of the parents is a deaf-mute and the other hears. Consanguineous marriages, which represent in France about two per cent. of marriages, produce about one-fifteenth of congenital deaf-mutism. Dr. Ladreit de Lacharrière, a well known aurist, has laid it down as an axiom that whenever a child loses its hearing during the first eight years of its existence, it becomes dumb by its forgetfulness of language, and until the age of four years this mutism is fatal.

Medicamentous Eruptions.—In his inaugural thesis for the doctorate, under the title of "Medicamentous Eruptions," Dr. Deschamps thus summarizes the common characters and the course of the eruptions which may follow the administration of a medicament. Among the medicaments the employment of which may determine erythematous eruptions the list is headed by copaiba, then follow belladonna, the sulphate of quinine, turpentine, stramonium, the protoiodide of mercury, the bromide of potassium, the syrup of poppies, the preparations of arsenic, etc. Those which produce vesiculous affections are the bromide of potassium, the alkaline iodides, cubebs, the santonate of soda. Those which give rise to pustulous affections are the iodides, arsenic, the bromide of potassium. The papulous affections are produced by Fowler's arsenical solution, by the hydrochlorate of morphia in hypodermic injections. Bullous affections are produced by copaiba and the sulphate of quinine. Hemorrhagic affections are produced by the sulphate of quinine and the iodide of potassium. It may be seen from the above enumeration that the same medicamentous substances may give rise to different cutaneous affections, whence it may be concluded that the effects which are always due to the same physiological procedure, viz., the elimination of the medicament by the skin, vary a good deal as regards the different forms of eruption, according to the aptitudes of receptivity of individual idiosyncrasies. It goes without saying that the treatment of these eruptions should consist in the momentary cessation, or at least in the diminution of the doses of the medicament, its suppression not being effected always without grave inconvenience.

Début of a Lady Professor.—Signorina Giuseppina Cattani recently read herself in as incumbent of the newly founded chair of bacteriology in the University of Bologna. The subject of her lecture was bacteriology in its relation to modern pathology. She was received with great applause. The learned lady is thirty-one years old, and has been assistant in the Bologna Pathological Institute since 1884.—*British Medical Journal.*

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## Original Articles.

### KNOTS, LIGATURES, AND SUTURES.[1]

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IT is well, sometimes, to review the groundwork of our practice in order to see what advances have been made, what old ideas have proved worthy of being retained, and what old methods should be discarded; and this must be my excuse in presenting the trite and elementary subject here considered.

*Knots.*—The foundation of ligatures and sutures is, of course, the knot, and several forms of knots are used in surgery. It may seem to be scarcely worth while to emphasize the necessity of tying even a simple knot properly, and yet I have seen some good surgeons to whom it appeared to be more natural to tie a "granny-knot" than a square knot. If the knot is wrongly tied, it cannot be made strong by any number of additional turns. The best verbal rule for tying the square-, or reef-knot, is to pass the same end over the other in both turns; thus, if the end held in the right hand is passed over and turned around the end held in the left, it naturally passes into the left hand; and, in making the second turn, the same end (now held in the left hand) must be passed over and

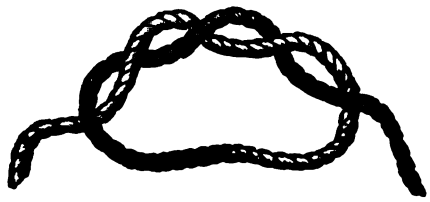

FIG. 1.—Surgeon's Knot.

around that held in the right. Thus the motion of the hands is reversed, and it is here that the tendency to error appears, for it is more natural to make the same motion of the hands in both turns. When there is much tension, as in bringing the edges of a widely gaping wound together, an extra twist is given to the strands in the first half of the knot, the second half being then tied as usual, and the same rule applying—to always pass the same strand over. This makes the surgeon's knot (Fig. 1). The extra twist simply keeps the first half of the knot from slipping while the second half is being tied. The surgeon's knot should never be used for ligatures, because it cannot be drawn tight enough; nor for tying sutures of fine silk, for the thread will break before the edges of the wound can be brought into contact.

When the tension is extreme, and a slippery catgut is used, it is well to tie a third turn after the square knot is completed, and the same rule must still be followed. This additional turn should always be employed in tying the surgeon's knot in catgut, for the double turn of the first twist does not correspond with the second turn made in the ordinary way. In tying knots there is one practical point which is not often enough insisted upon, namely, the greatest tension must always be exerted upon the first turn, for that is tied around tissues which are more or less elastic and yielding, and the encircling loop of thread helps to take up the extra strain, so that the material may be safely put to its fullest stretch. In the second turn, however, there is no such safeguard, and a pull which the thread bore well enough in the first turn will easily break it in the second.

Another knot which is sometimes useful in surgical work is the "clove-hitch" (Fig. 2), which is made by throwing two half hitches over any object. As it does not slip easily, it is employed for securing a catheter in the bladder; or for fastening a scarf upon a limb in order to get a good purchase for reducing a dislocation, or the deformity of a fracture. The "Staffordshire knot" will be considered later.

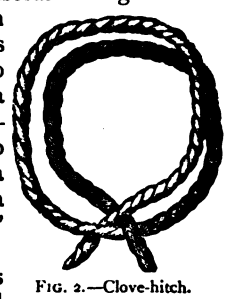

FIG. 2.—Clove-hitch.

*Ligatures.*—For ordinary ligatures the thread is merely passed around the vessel or stump of tissue to be ligated, and tied with a square knot. In ligating a thick pedicle when the tissues are very elastic, and a slippery catgut is used, the surgeon's knot may be employed, but, as a rule, it should not be used for ligatures. When a ligature is to be tied around a vessel, the points of the thumbs or of the fingers should be carried down the thread close to the knot, so as to make a direct pull upon the knot itself, and to avoid drawing the tissues out of place, or pulling the enclosed mass of tissues off, or at least displacing the artery-forceps. When a clamp or forceps has been applied to a large surface or mass of tissue, it is well to take it off after the first half of the knot is drawn tight, for then it can generally be drawn tighter before the second half is made. In the same way, if two or more artery-clamps have been applied close together, and it is desired to include them all in one ligature, it is best to take off the clamps one by one, as the first half of the knot is drawn up, at least until only one clamp is left. By adopting this method in all cases, a great deal of time can be saved, the assistant removing the clamp as the first half of the knot is tied, and being ready to cut the thread when the knot is completed.

When there is difficulty in securing a bleeding point on account of the friable nature of the tissues, or because the latter are too dense to be pinched up by the forceps or ligature, the hemorrhage can be arrested by passing a suture deeply underneath the bleeding vessel, and tying the thread so as to include it. It is thus that Horsley controls hemorrhage in his extensive operations upon the delicate tissue of the brain, where it is impossible to apply ligatures in the ordinary way. Before excising any part of the cerebral tissue, he surrounds it by a series of these deep suture-ligatures, and the operation is then practically bloodless. This method is greatly superior to the old one of tying under a tenaculum hooked under the bleeding point, or under a needle similarly placed and allowed to remain for some hours *in situ*.

When an artery is to be tied in its continuity, catgut is now almost exclusively employed for the ligature. It is not necessary to draw the thread tight enough to divide the internal coat of the artery (as used to be the rule), for the lumen of the vessel will be obliterated by simple adhesion of the internal surfaces. But if it is necessary to obtain a permanent obliteration of the vessel, it is wiser to apply two ligatures, and to divide the artery between them, for, with an aseptic course of the wound, there is so little new tissue and blood-clot formed that the vessel

[1] Read before the Surgical Section of the New York Academy of Medicine, October 14, 1889.

may become permeable again, even if the ligature has been applied tightly enough to divide the intima.

If a vein has received a small wound which can be picked up by forceps without entirely occluding the lumen of the vessel, a ligature can be thrown around the forceps, and these lateral ligatures have been frequently applied without destroying the permeability of the vein. This is, of course, a matter of great importance in those large veins which are almost the only channels for the return of the blood from a limb.

In tying off large pedicles of tumors, especially those which are to be dropped into the abdominal cavity, it is not safe to depend upon a ligature simply tied around the pedicle as a mass, and it is necessary to transfix the pedicle with the ligature before tying, and to tie it in two or more portions. In this way the ligature encircles a smaller mass, and, each loop being passed through the tissue of the pedicle itself, it is less likely to slip over the end. The thread is passed through the pedicle with some blunt instrument, such as an aneurism-needle, and it is well always to hold one end of the thread in the hand along with the handle of the needle, allowing the other to hang loose, so that, when the loop has been picked up from the needle and the latter withdrawn, the surgeon may be sure that the two threads are not twisted in each other. The loop is then cut, and the two halves of the thread are made to twist around each other, lest the pedicle should split at the point of puncture and hemorrhage occur where it would not be controlled by either ligature, and each thread is then tied around its half of the pedicle (Fig. 3). In tying the ligatures the greatest amount of compression will be obtained by placing the knot directly opposite the point of transfixion, and this is especially true of the broad, flat pedicles, in which, if the knot is properly placed, it will gather the comparatively thin, free edge of the pedicle toward the centre like a curtain. Instead of twisting the two threads, they may be tied together in a square knot at about the middle of their length, which is drawn firmly against the point of transfixion, and the two halves of the ligature tied as before.

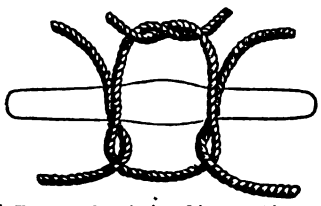

FIG. 3.—Interlacing Ligature (three loops).

Tait has introduced a very good method of applying ligatures to pedicles (called by him the "Staffordshire knot"), which combines all the advantages of the method just described, and requires less time to apply it. When the loop is picked up and the needle withdrawn, after transfixing the pedicle, the loop is drawn upon until it is large enough to slip over the tumor, then it is thrown over, so that it lies upon the same side as the free ends of the ligature. One of the ends is passed through the loop, and both ends are then drawn upon until the proper amount of constriction has been obtained, when they are secured by tying them across the loop in an ordinary square knot (Fig. 4). A somewhat similar ligature may be tied without drawing the loop out and passing it over the tumor, by throwing one of the free ends around one-half of the pedicle, passing it through the loop, and then tying it with the other end around the other half of the pedicle; but great care must be exercised in drawing the first half very tight before the second half of the pedicle is constricted, or there may be difficulty in drawing it sufficiently tight afterward.

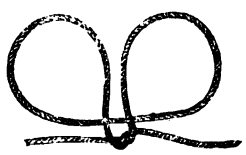

FIG. 4.—Staffordshire Knot.

A small pedicle may be transfixed with a single thread, which is first tied around one-half, and the ends then carried around the entire pedicle, and tied upon the other side. If the tissues of a pedicle are very resistant, it will be well to apply a clamp temporarily where the ligature is to be placed, and to tie the ligature in the groove made by the clamp. The best material for ligatures, for pedicles of any size, is undoubtedly silk, for catgut is too readily absorbed, and is too bulky when sufficiently thick to be strong; but some surgeons prefer catgut. The silk becomes incapsulated, and gives no trouble.

*Sutures, Interrupted and Continuous* (Fig. 5).—It s unnecessary to describe the interrupted and the continuous sutures, but a few words may be allowed as to which form is the better suited to any given case. Where there is much tension, the interrupted suture is to be preferred, for if it should yield in any place the integrity of the other stitches would not be impaired, whereas if one or more of the line of stitches in the continuous suture should break or cut out, the entire line would be slack. When very accurate apposition is desirable, as in wounds upon exposed parts of the body, the interrupted suture is also the better, for, with the continuous, one is apt to find on reaching the farther end that there is a surplus of material in one edge, especially if they were unequal to begin with. With the interrupted suture, on the other hand, even if one lip of the wound is longer than the other, by putting the first stitch in the middle and then halving the distance on each side with each succeeding stitch, the superfluous length of one side can be so evenly distributed that the inequality entirely disappears under the pressure of the dressing and in the process of healing. In using the continuous suture, it is well to have an assistant lift up a fold and make tension on both ends, so that the edges shall be evenly stretched; or, if no fold can be raised, he should hook a tenaculum in each end of the wound and thus make tension while the sutures are inserted.

FIG. 5.—Continuous Suture.

The great advantage of the continuous suture lies in the ease and rapidity with which it can be applied, and consequently it is to be employed for almost all other wounds than those just noted.

The continuous suture can be finished very neatly by taking the last stitch with the thread double (the free end of the thread being left long enough to remain in the stitch), and when the stitch has been pulled tight the free end of the thread on one side is tied with the needle-loop on the other. If the thread should be too short for this manœuvre, the loop of the last stitch is left long and tied (using the double thread as one strand) with the free end of the thread after the needle has been removed; or an interrupted suture may be put in with another thread, and one of its ends tied with the free end of the continuous suture.

*Glover's Suture* (Fig. 6).—An irregularity of the seam is often seen in the continuous suture, owing to the fact that, although the needle is passed at right angles to the incision at each stitch, there is an oblique pull upon the lips of the wound when the suture is finished, because the thread passes obliquely across the incision from one stitch to the next. This can be avoided by passing the needle after each stitch through the loop of the preceding one, thus making a sort of chain-stitch, called the "glover's suture," and making each stitch partially independent of the rest. This expedient allows of very accurate apposition, and is also useful when the tension upon the suture varies in different parts of the wound, for it enables one to keep the stitches tighter in one part than in another.

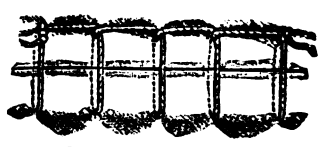

FIG. 6.—Glover's Suture.

*Mattress or Quilt Suture* (Fig. 7).—Another variety of the continuous suture is the mattress or quilt suture, although the latter may be so applied as to be rather a modification of the interrupted form. The mattress suture is designed to bring broad surfaces into apposition, the needle being passed in the ordinary way for the first stitch and the thread tied, but instead of carrying the needle over the wound, and introducing it in the same direction as be-

fore, it is inserted upon the same side as it emerged, and passed through both lips of the wound in the opposite direction. Thus the direction of the needle is reversed at each stitch, and the external loops of the stitches, instead of lying across the incision, lie upon the skin on each side of the latter, and parallel with it, as seen in the figure. It is evident that the same principle may be used as to passing the needle, but by cutting the external loops upon one side and leaving the ends long, each stitch can be tied as in the interrupted suture, care being taken not to tie so tightly as to cause sloughing. This suture has a tendency to cause great eversion of the edges of the wound, and this peculiarity makes it an excellent suture where the skin is thin (as in the eyelids or the scrotum), for here the skin has a natural tendency to inversion; and also when the skin is bound down by cicatricial tissue, as around old fistulæ. It is a capital suture for bringing the deeper parts of a wound in contact, as a sort of tension-suture, and has been especially recommended for this reason for the abdominal wound in laparotomy.

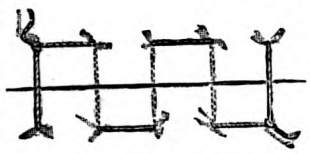

FIG. 7.—Mattress Suture.

*Cobbler's Suture* (Fig. 8).—Another variety of the continuous suture is the "cobbler's stitch." This is best applied by a needle set in a handle with an open eye near the point. The needle is passed through both lips of the wound, and one end of the thread caught and pulled through on the withdrawal of the needle. The thread is allowed to remain in the needle, and the latter is again passed through the lips of the wound for the second stitch, when the thread is removed from the eye and the other thread is caught up in its place and pulled through by withdrawing the needle. Thus both threads pass through

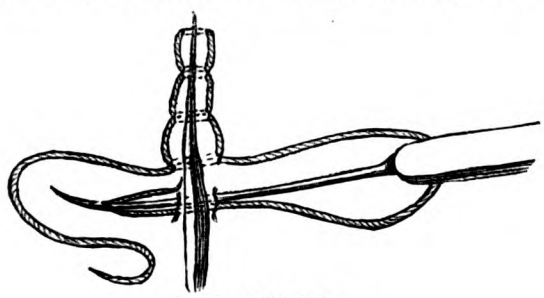

FIG. 8.—Cobbler's Suture.

each puncture of the needle, but in opposite directions. When the entire wound has been closed the ends of the thread are tied together. The external loops of the stitches form a continuous line on each side of the incision and parallel to it. Of course, the same suture could be made by a thread with a needle at each end, the needles being passed in opposite directions through the tissues at the same point; but one must be passed and its thread drawn tight before the other is introduced, for the second will probably pierce the thread of the first and prevent it from being drawn any tighter. This suture is very useful for covering in broad, oozing surfaces in pedicles which it is impossible to ligate *en masse*.

*Lead-plate Suture* (Fig. 9).—When there is great tension of the skin, or when there is a tendency of the deeper parts to fall away from each other and to leave a cavity, some deep sutures are passed at a distance from the edges of the wound to assist the ordinary sutures in closing the gap. Sutures of heavy catgut, or silk, or wire may be employed for this purpose, but most useful are the lead-plate sutures. The lead-plate suture consists of a wire with a lead plate about an inch in diameter fastened to each end, thus distributing the pressure over a considerable area of skin and permitting the wire to be drawn very tight. In placing these sutures, which are always passed at some distance from the wound, it is well to put a little of the iodoform or other gauze used in the dressing between the plate and the skin to lessen the danger of excoriation. The wire is secured to the lead plate by twisting it around little projections which are cut in the edge of the latter; or a perforated shot is slipped over the wire at each end, pressed against the plate, and clamped when the desired tension has been obtained; or

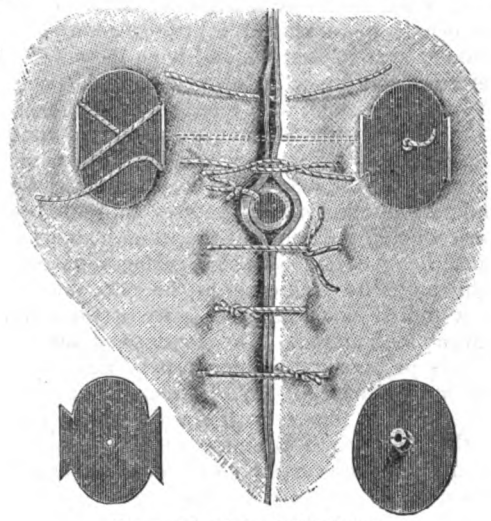

FIG. 9.—Lister's Lead-plate Suture.

the wire is passed through and twisted around a bead slipped over its end. An ordinary flat button can be used instead of the lead for the plates. Two of these lead-plate sutures will usually be found sufficient.

*Quill Suture* (Fig. 10).—The old quill suture has almost entirely disappeared from use, being replaced by these lead-plate sutures, and by the method of buried sutures; but in some cases it will still be found useful. The quill suture was employed where it was desired to get close apposition of broad surfaces, as in the old-fashioned operation for repair of a lacerated perineum. The necessary number of sutures are passed, the needle, carrying a double thread, being entered far from the edge of the wound and passed very deeply, as if for interrupted sutures. A quill, or a piece of rubber or glass drainage-tube is laid along each side of the wound where the threads emerge, the double threads of each suture are separated, passed on each side of the tube, and tied together over the latter. All the threads on one side of the wound are tied, then those on the other are drawn tight and secured over the other tube in the same manner.

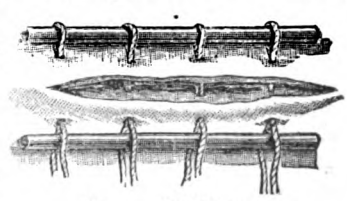

FIG. 10.—Quill Suture.

*Hare-lip Suture.*—Finally, we must notice the hare-lip or twisted suture, which consists of a pin passed through both edges of the wound, and a soft thread twisted around the projecting ends of the pin and across the edges of the wound, approximating the latter, and also pressing down the margins so as to prevent eversion. The ends of the pin are then cut off close to the threads. In three or four days the pins are withdrawn, being loosened from the threads by gentle rotation, and the latter are left for a few days longer adhering to the wound and holding it together. This method of closing wounds is especially adapted to cases in which the tension is great and there is a lack of support from underlying tissues, and it is most frequently employed in operations for hare-lip. In passing the pins through the lips they are entered half an inch or more away from the edge of the wound, and passed obliquely so as to issue on the raw surface of the wound, just avoiding the mucous membrane; then they are entered on the opposite raw surface at the same point, and made to issue from the skin at the same distance from the wound on the other side, so that nothing is exposed on the mucous membrane of the mouth. A few fine, interrupted sutures secure exact apposition of the skin and

the vermilion border of the lip, and it is well also to insert one of these where each pin is passed, removing the thread temporarily for the purpose.

*Buried Sutures.*—The formation of cavities may be prevented in wounds in another way—by the use of the buried suture. The buried suture is made with fine catgut and a curved needle, by picking up a little tissue on each side of the wound near its bottom, and tying the stitch. Then the operator picks up a little tissue with his needle on one side of the wound, and then on the other, keeping close to the angle at the bottom, and making a continuous suture, each stitch being drawn tight as soon as made. When one end of the wound has been reached, he turns back and adds another tier of sutures in the same way, each tier reducing the depth of the wound about half an inch, until the two raw opposing surfaces have been as thoroughly united to each other as the cloth upon the two sides of a quilted cloak, and the cavity of the wound has been entirely obliterated. The continuous suture is the best for this purpose, but in some cases interrupted sutures will answer instead. With thorough antisepsis it is sometimes possible to sew up the entire cavity of an abscess in this way without drainage, after clearing the walls of granulations by the curette, and to obtain primary union. The buried suture is most useful in plastic operations for lacerated perineum, or after excision of anal fistula.

*Wire Sutures.*—When wire is used for sutures it is introduced by a strong needle with a large eye; or a needle is threaded with both ends of a stout silk thread, and the end of the wire is sharply bent and hooked into the loop thus formed, by which it is drawn through the tissues. Wire sutures are secured by twisting, and forceps are generally used for this purpose, a "shield" (an instrument with a slot in it like a tongue-tie) being slipped down over the ends so as to compel the twisting to begin near the wound. When the proper tension has been obtained by twisting, a couple of tenacula are hooked under the loop of wire, and by drawing them apart the wire is bent at a right angle where it enters the tissues, and the external loop is made to lie smoothly on the surface. This is technically called "shouldering."

*Suture of Tendons.*—Tendons are sutured, primarily, in some wound; or, secondarily, after the original wound has healed, or after subcutaneous rupture. In the first case the wound is already present, and at most only requires to be enlarged in order to reach the tendon. In the second, the surgeon has a choice as to the wound, and in such cases the best means of gaining access to the tendon is undoubtedly by a curved incision, parallel to the course of the tendon, marking out a flap, with its base lying over the latter. When the tendon has been united and the flap returned to its proper position, the line of the incision will not lie directly over the tendon, and there will be less danger of cicatricial adhesions forming between the latter and the skin. When the tendon has retracted into its sheath, it is not wise to try to drag the ends down by forceps, for that is liable to lacerate them and to carry infection up into the sheath. The better plan is to open the sheath by a lateral incision as far as the end has retracted, for a few sutures will close the wound, and as it is placed upon the side it will be out of the direct line of tension, and even if immediate union is not secured, there will still be synovial membrane between the tendon and the tissues above it.

The most difficult part of the operation is the suture of the divided ends of the tendon, for the tension is often very great, in spite of all the relaxation that can be obtained by placing the limb in the most favorable position, and the tissue is so easily split by the thread that the tissues tear out. Some have employed a sort of quilt suture, made as follows: A thread is provided with a needle at each end, the ends of the tendon are made to overlap for about a quarter of an inch, and the needles are passed through both ends at once, from below upward, one near each edge of the tendon. When the stitch is drawn tight the loop of the thread forms a transverse suture on the lower surface, and the two ends are tied together across the upper (Fig. 11). When the two ends of the tendon cannot be made to overlap, a modification of this suture can be used. In this case the two needles are passed through one end from above downward, one near each edge, and then they are passed through the other end in the reverse

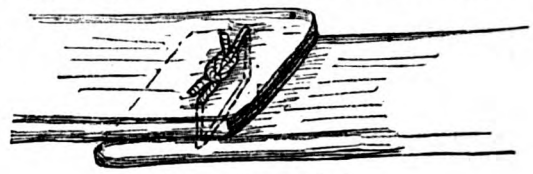

FIG. 11.—Suture of Tendon.

direction, from below upward, and the knot made across the upper surface of the latter end, holding the cut surfaces of the ends in close contact (Fig. 12). Of course both of these forms of suture can be made with a single needle, by beginning and ending the stitch where the knot is to be tied, and taking care to pass the needle in the proper direction at each puncture. This quilt suture answers very well for broad, flat tendons, but is altogether inapplicable to the small, round variety, which barely give holding ground for one thread. A theoretical objection of doubtful weight is the danger of cutting off the blood-supply of the ends.

But the greatest advances have been made in the suture of tendons since the proposition of Nicalodoni, to relieve tension by passing acupressure needles through the tendons above and below the point of division, suggested to Witzel the more practical idea of accomplishing the same object by relaxing sutures inserted in the ends of the ten-

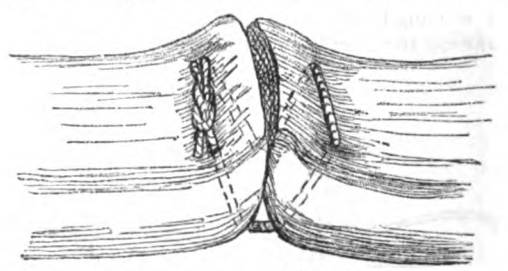

FIG. 12.—Suture of Tendon.

don in the wound (Volkmann's *Samml. klin. Vorträge*, No. 291). He passes a stout catgut thread through each of the divided ends, about half an inch away from the point of division, thus making a loop in each end which serves to hold them in apposition during the operation. Delicate catgut sutures inserted at the point of division are sufficient to insure contact of the divided ends, and the relaxing loops are then tied together across the point of division, thus relieving the fine sutures of all strain, for the heavier sutures are passed so far back that they are not likely to tear out. If a tendon has been divided close to its insertion into a bone, the distal relaxing suture is passed through the periosteum of the bone near the point of attachment of the tendon, and then the sutures are inserted in the same way.

*Suture of Nerves.*—It is to the French surgeons of the early part of this century that we owe the clinical demonstration that suture of nerves could be practised without danger of tetanus from "irritation," and with the growing proof that tetanus is due to a specific infection all fears of the procedure have disappeared, leaving us free to adopt bolder and securer methods of applying the sutures. At first the only suture considered allowable was the "paraneurotic," which included only the sheath of the nerve, with a portion of the surrounding cellular tissue. In most cases accurate adaptation of the ends of the nerve cannot be obtained by such sutures. The obstacle to successful suture of nerves, however, lies not so much in the mechanical difficulties as in the degenerative changes which are at once set up in both ends when a nerve has been divided, so that even with immediate restoration of phy-

sical continuity, functional restoration is delayed until the nervous tissue can be regenerated. It is true that some recent cases seem to show that immediate functional restoration is sometimes possible, but the evidence is not yet conclusive, and for most cases, at any rate, the older theory holds good. In fact, the functional results of secondary nerve-suture have been almost as good as when the ends have been immediately united.

If the ends of the nerve can be brought together so that the raw surfaces of the recently wounded nerve, or its freshened ends if the operation is secondary, are in contact, a simple suture or two of fine catgut will generally suffice; but if there is much tension, a quilt suture similar to that used for tendons may be employed, and perhaps relaxing sutures would be of advantage here also. But the true nervous tissue must be in contact, so that it will not answer to have the ends overlap. Nerves do not retract much when divided, but the operation is so often undertaken secondarily, when the ends of the divided nerve have degenerated into fibrous tissue, that it is necessary to remove a considerable portion before any real nervous tissue can be found, and thus a considerable gap is made. Various means have been adopted to overcome this difficulty, such as grafting the nerve into some neighboring nerve; cutting a flap from each end with its base toward the point of division, turning them into the gap and uniting them; replacing the lost tissue with fibres of catgut, decalcified bone, or even rubber drainage-tubes; transplanting into the interval portions of another nerve, or of a nerve from some animal; or even shortening a limb by resecting its bones so as to bring the separated ends together. But the simplest and best expedient is to stretch both ends of the nerve, and this will serve for most cases; for a nerve will bear a considerable amount of stretching without losing its functional powers, and even if a temporary suspension of these were caused, the final result would not be affected. A gap of an inch in the median nerve, for example, has been easily overcome by stretching.

*Suture of Veins and Arteries.*—Longitudinal wounds of veins have frequently been united by suture without occluding the vessel. Horoch (*Allgem. Wien. med. Ztg.*, 1888, 263, 279) has lately reported some experiments upon animals which prove that veins may also be circularly sutured after complete division, with preservation of the lumen, and that longitudinal and circular suture (after complete division) can even be applied to arteries; but the artery becomes gradually occluded by endothelial growth. Since the establishment of the fact that a clamp forceps can be applied laterally in case of wound of a vein, and removed in a few hours without secondary hemorrhage, so that the calibre of the vessel can be preserved, it has become unnecessary to suture the wound, and even the lateral ligature is falling into disuse. But circular suture, if it can be accomplished in man with preservation of the lumen of the vessel, would offer a new and welcome escape from the ligature of veins when the collaterals are insufficient. Suture of the arteries would also be useful, in spite of the fact that the vessel remains permeable only a short time, in cases where it was desirable to give the collateral circulation more time than usual to develop. I believe that the crewel needle, to be described below, would be excellent for the suture of vessels which were not so deeply placed as to make the use of a curved needle imperative, a double thread of fine silk being used which would completely fill the needle punctures and prevent oozing.

*Suture of Intestine and Stomach.*—The only available forms of suture for the intestine and stomach are those which bring the peritoneal surfaces together, for only in this way can union be obtained quickly enough to prevent leakage of the contents. This requirement is most simply fulfilled by the Lembert stitch, whether applied as an interrupted or continuous suture. The Lembert stitch is made by entering the needle about three-sixteenths of an inch from the margin of the wound, picking up the serous and muscular coats only, and leaving the mucous membrane untouched, and bringing the needle out about one-sixteenth of an inch from the edge. The needle is then made to pick up the serous and muscular coats on the other side of the wound, being entered one-sixteenth of an inch from the margin, and made to issue three-sixteenths of an inch from it (Fig. 13). On tying the two ends of the thread, the edges of the wound will be rolled in, and the two strips of peritoneum, about one-eighth of an inch wide, under which the stitch passes on each side, will be brought into contact (Figs. 14 and 15). After one line of such sutures has been inserted around the wound, a second is often advisable, which will turn in still more of the peritoneum and give additional security.

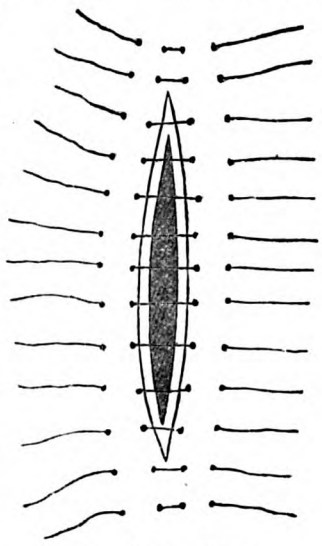

FIG. 13.—Lembert Suture.

In the dog's intestine the submucous coat is developed into a strong aponeurosis (first pointed out, so far as I know, by the simultaneous papers of Halstead and myself, *American Journal of the Medical Sciences*, October, 1887, although it must have been known to all experimenters), and if the point of the needle is made to scrape over the surface of this membrane so as to pick up some of its fibres, the stitch holds much more strongly than

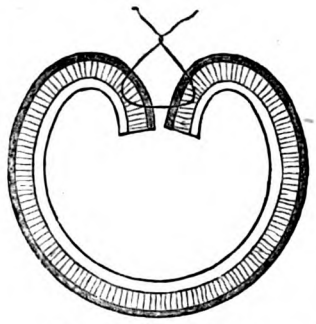

FIG. 14.—Lembert Suture.

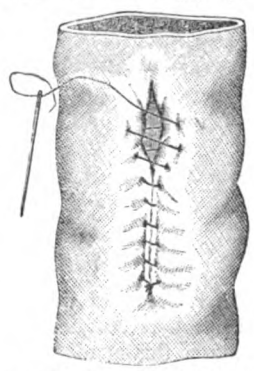

FIG. 15.—Continuous Lembert Suture.

when only the brittle and soft serous and muscular coats are included. But in man, where the submucous coat is mere soft cellular tissue, the stitches will not bear any very great strain, and it is difficult to pass them without wounding the mucous membrane. (Greig Smith writes as if the submucous coat were also fibrous in man, but this is not the case.) In general, the interrupted suture is to be preferred in intestinal work, for there is great danger that the continuous suture would be loosened by the premature cutting out of one of its links; but the latter is useful for the second (re-enforcing) line of sutures, as it requires less time to apply it.

One of the greatest difficulties in circular suture of the intestine, is the treatment of the mesenteric attachment at the wound. It requires great care to cover the raw surfaces here with the ordinary Lembert suture, even when the two peritoneal layers of the mesentery have been fastened together by a stitch at the wound, and a passageway of non-serous surfaces is very apt to be left in the wound communicating at one end with the interior of the bowel, and at the other with the fatty cellular interspace between the two layers of the mesentery. This forms an easy route for infection, and it is here that the suture most frequently gives way.[1]

[1] In a series of experiments upon dogs (loc. cit.), I used a rather

Senn has lately revived the old idea of protecting the line of sutures with a strip of the omentum stitched around outside, and claims good results.

The best needles for use in intestinal work which I have been able to find, are the fine needles with long eyes that are used by ladies for embroidering in crewels. They can be obtained from an inch and a half to an inch and three-quarters long. They carry a very large thread in proportion to their size, and are much more easily threaded than the cambric needle, or the milliner's needle recommended by Halstead. A straight needle held in the fingers is far better than a curved needle, which requires forceps, except in some situations where the sutures have to be applied to a wound deep in the abdomen. For such cases the slender curved needles of Schramm, or the Hagedorn intestinal needles, can be used, the latter having the advantage in the size of their eyes. Fine silk is the best material to employ in suturing the intestine and stomach, for catgut of the same strength would have a greater bulk, and necessitate a larger needle; moreover, catgut is difficult to obtain, while silk can be had anywhere, and soon sterilized by boiling. As the silk becomes encapsulated in serous exudation, it remains harmless.

More complicated methods of suture are in favor with some surgeons. The edges of the mucous membrane are

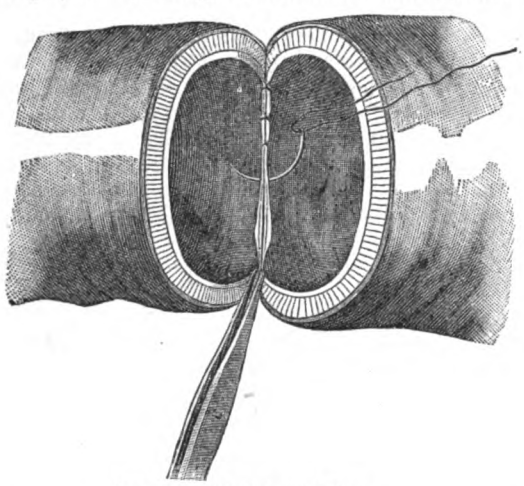

FIG. 16.—Wölfler's Internal Suture.

frequently united with a line of sutures before applying the Lembert stitches outside, and in operations upon the stomach this is advantageous, to protect the raw edges of the inverted wound from the action of the gastric juice. But in the intestine it seems to be an unnecessary refinement, except, perhaps, for a short distance at the mesenteric border. The Czerny suture is of this kind, and the Gussenbauer, as well as the suture advocated by Wölfler, shown in Fig. 16. In the latter about three-fourths of the sutures are tied with the knot free in the lumen of the bowel, but the rest must be tied with the knot outside, where it lies in the wound between the submucous and mucous coats. Halstead recommends a quilt suture, made by taking a Lembert stitch as usual, and then making another about one-twelfth of an inch from the first, but in the opposite direction, so that the end of the thread is brought out again upon the same side of the wound as it started from, and the two ends are tied there. The disadvantage of this suture is, that instead of turning in the broad surface of peritoneum under which the thread passes, as the Lembert stitch does, it turns in only the narrow strip along the edge of the wound which has been left free from sutures. The stitch, however, is not likely to tear out, and the first objection could be overcome by inserting a second line of sutures, if the prolongation of the operation were not considered an objection.

*Intestinal Anastomosis.*—A very great advance in intestinal surgery has been made by the proposition of Senn (*Annals of Surgery*, vii., 1888), to employ perforated plates of decalcified bone when it is desired to make an anastomotic connection between two adjacent loops of

FIG. 17.—Inserting the Ring.

bowel, instead of the tedious operation of uniting the edges of the openings in the two loops to each other by sutures. The plates have a large opening in the centre to allow the contents of the intestine to pass while they remain in place. One is passed into the opening in each loop, and the two are then tied together by the silk threads attached to them, and hold the edges of the openings in contact. Abbe has suggested (*New York Medical Journal*, March 23, 1889) oval rings of catgut, the latter being coiled until it is about of the thickness of a lead-pencil, and then flattened by pressure between two pieces of glass, for the decalcified bone plates are difficult and tedious to prepare, especially the large sizes, and the opening in them is in some danger of being too small. Brokaw, of St. Louis (*Weekly Medical Review*, August 17, 1889), has experimented successfully on dogs, with rings made of short pieces of rubber tubing threaded on catgut strands, to which the silk threads are attached. The method of application is in all cases the same. Each ring has six silk threads attached to it, one at each end and two on each side, each provided with its own needle. An incision is made in the bowel at the desired place, and the ring with its needles having been spread out upon a towel near by, the operator passes one of the end needles through the wall of the gut from within outward, about one-fourth of an inch from the end of the incision. The ring is then inserted into the bowel through the wound and the thread drawn tight; the other end can then be passed through the bowel at the point which corresponds to its attachment to the ring. With these two

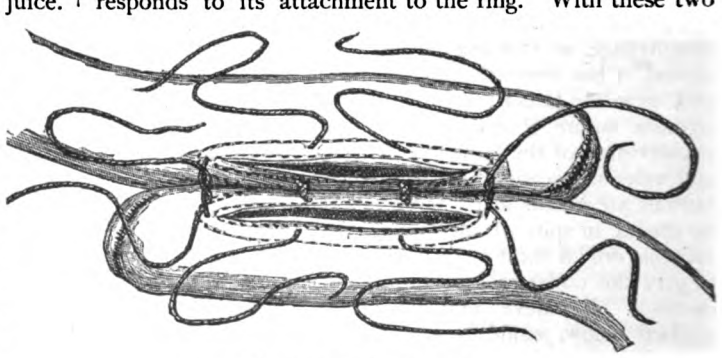

FIG. 18.—Tying the Threads.

threads drawn tight, the rest are easily passed at exactly the proper points (Fig. 17). The other ring is then inserted into the other loop of the intestine in the same way, and while an assistant holds the loops of the gut and the rings (easily felt through their walls) in apposition, the six pairs of threads are tied together (Fig. 18), but care must be taken not to exert so much force as to break the thread. Should one of the threads break, a needle armed with a thread which has a large knot on its end, can be passed through the ring and the wall of the bowel, so that the knot will catch in the former, in place of the broken thread. Half

complicated but reliable method of suturing this point, but it is unfortunately not often applicable to the human bowel, because the interstitial fat in the mesentery extends so far, not being limited to a little triangular interval near the intestine, as it is in dogs.

a dozen Lembert sutures are placed around the anastomosis, to diminish the strain on the rings, and to secure closer apposition of the serous surfaces. The operation requires only about fifteen minutes, and the rings can be applied in situations which would be inaccessible to ordinary sutures. (Fig. 19 shows a section through the opening and the rings *in situ*.)

This method is also applicable to the formation of a fistula between the stomach and bowel. But perhaps the most important development of the use of the rings is

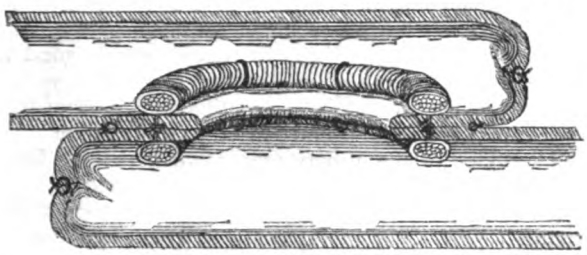

FIG. 19.—Section through Opening and Rings, in the Long Axis of the Bowel.

their use instead of circular suture of the intestine. In such cases the two ends of the divided bowel are closed by turning in the edges and uniting them by a continuous Lembert suture, which only takes a few minutes. Then the ends are made to overlap, slits cut in the side of each about an inch from the end, and the rings applied. The entire proceeding requires less than half an hour, and gives a much safer union of the two ends than the most skilfully applied intestinal suture, and if the rings and openings are made sufficiently large the functional results are just as good. A considerable number of cases are now on record in which the rings have been used successfully for entero-enterostomy, gastro-enterostomy, and as a substitute for circular suture of the bowel.

*Gastrostomy.*—We must mention here a very ingenious suture introduced by Greig Smith ("Abdominal Surgery," London, 1888) for securing the stomach to the abdominal wall for gastrostomy, and available also for securing any cyst to the abdominal wall for drainage (Figs. 20 and 21).

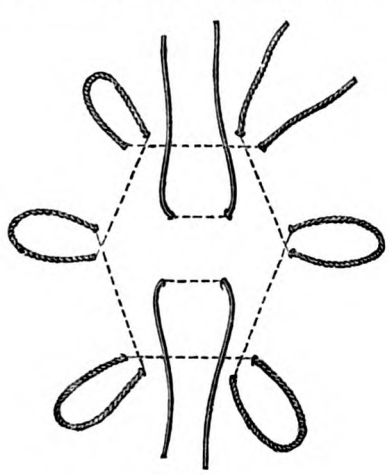

FIG. 20.—Fixation for Gastrostomy.

Having passed two wire sutures in the wall of the stomach, without penetrating the mucous membrane, and using it to steady that organ, he takes six long stitches in the wall of the stomach, surrounding the wire suture, passing the needle under the serous and muscular coats only, and including a hexagonal space large enough to contain the required opening. Each stitch is about half an inch long, and the needle is entered for the next stitch close to where it emerged from the last, leaving a loop four inches long hanging between the two. The abdominal wound is then partly closed to reduce it to the proper size for the fistula, and the peritoneum and skin are sewed together around the edges so as to cover in the raw edges of the remainder. While the wire suture holds the stomach against the wound, the other loops are picked up in turn by a needle set in a handle with an open eye at its point (like the needle in Fig. 8), inserted through the entire thickness of the abdominal wall from without inward at corresponding points, so that the six loops are drawn outside and lie upon the skin of the abdomen. A drainage-tube is then passed through the loops and coiled in a ring around the wound, the loops are drawn tight in succession, and the last one (consisting of the two free ends of the thread) is then tied over the tube. The wire sutures are also twisted over the tube, for they are useful subsequently in opening the stomach. In a case of gastrostomy in which I tried this suture it answered very well, but instead of the needle on a handle, I found it more convenient to use a large curved needle with a carrying thread of coarse silk, by which the loops attached to the stomach were drawn through the abdominal wall by passing the needle from within outward. I also found it very difficult to draw the thread of the loops even and tight after they had been passed over the drainage-tube, so I cut each loop and tied the ends together over the tube.

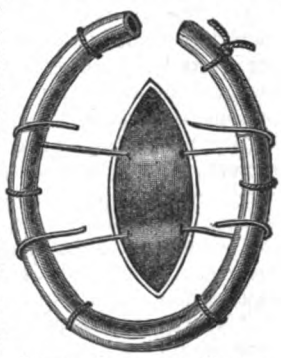

FIG. 21.—Gastrostomy, Fixation Suture.

*The Abdominal Wound in Laparotomy.*—The greatest difference exists in the methods adopted by surgeons in closing the abdominal wound made in laparotomy. All are agreed upon the necessity of bringing peritoneal surfaces in contact, but some surgeons use only a single row of sutures passing through all the layers of the abdominal wall, while others apply several series, uniting each layer independently. For small simple wounds, where the edges have not been exposed to much stretching or contusion, the simplest method will save time and will give perfect results, if care is taken to insert the sutures properly. In closing the wound in this way, a coarse silk is to be preferred (although silver wire, silkworm gut, or even a heavy, hard catgut may be used), introduced with a large straight needle. The edges of the wound are kept upon the stretch so as to prevent uneven retraction or protrusion of any of the various layers, and the needle is inserted about half an inch from the margin of the wound and carried obliquely toward it, so as to emerge upon the serous surface only one-eighth of an inch from the edge; it is then passed through the other lip of the wound at a point exactly opposite, in a reverse direction. Some surgeons use a thread with a needle at each end, and pass both ends of the suture from within outward. In tying the sutures, which are placed one-third of an inch apart, care must be taken to see that the serous surfaces are really brought in contact, but too broad a strip of peritoneum must not be turned up into the line of the wound, for it might become interposed between the tendinous and muscular structures, prevent their union, and result in hernia.

When several tiers of sutures are employed, the peritoneum is united with a fine thread and continuous suture for the whole extent of the wound. The transversalis fascia must be included in this stitch when there is much tension, or the suture will tear out. Then the tendon or muscle is secured by a second tier of stitches, made with a stout thread, and finally the integument is united over all. It is very advantageous to make a separate suture of the peritoneum, except in the simple wounds mentioned above, for if any septic trouble arises in the wound, the early and accurate union of the peritoneum shuts it off from the abdominal cavity. But the majority of operators make only two tiers of sutures, one for the peritoneum and one for the skin and muscular layers together, and this seems the most common-sense practice. Sometimes it may be necessary to use lead-plate relaxing sutures when the tension is great, but such cases seldom occur except in laparotomy for intestinal obstruction.

*Artificial Anus.*—In performing lumbar colotomy, it is well to draw the bowel into the wound and secure it to the skin around the entire incision before opening it, if it be possible to do so, in order to cover in the exposed surfaces and to shield them from infection. In making an artificial anus elsewhere, the peritoneum is drawn out of the wound with artery-clamps and sutured to the skin, so as to cover the raw surfaces here also, and the intestine is then drawn out of the wound and secured in the method preferred by the operator—a loop being drawn out and fastened by a few sutures to the skin, or by passing a rod or some other object through the mesentery; or by stitching the lips of the wound together in the middle with the mesentery between them, so that the central portion of the loop rests upon a bridge of skin. Or the presenting bowel is left inside of the abdomen, and simply secured to the wound by a circular suture, or several interrupted sutures. A method similar to that just described for gastrostomy might also be employed.

*Fixation of Abdominal Organs.*—When any of the organs in the abdomen become displaced or too freely movable, such as the kidney, spleen, or a lobe of the liver, they may be secured by sutures, and the same method has been employed for correcting malpositions of the uterus. The suture is in these cases of some coarse material, passed so as to include the capsule and more or less of the tissue of the organ, lest it should cut out. In all cases except fixation of the uterus, it has been found advisable not to depend merely upon the suture, but to tampon the wound, and thus secure an anchoring of the organ to a mass of cicatricial tissue embedded in the abdominal wall. In securing the uterus, after it has been restored to its proper position through a small wound just above the pubes, it may be stitched by separate sutures to the inner surface of the abdominal wall, or the sutures which close the abdominal wound (silk, or wire) may be made to pass through the fundus also, and to hold it up against the inner aspect of the wound.

Any organ or cyst may be secured to the abdominal wall by a couple of sutures, in order to evacuate the contents of an abscess or cyst through the wound. Some prefer a ring of sutures of fine material, but in the case of solid organs (liver, spleen) two deep sutures will answer. For some cases Greig Smith's suture for gastrostomy might be used. If the sutures hold well it will not be necessary to wait for adhesions to form. I recently evacuated an abscess of the liver through the pleural cavity by resecting a portion of the tenth rib, sewing the two layers of the pleura together as they lay in contact (but not adherent) over the diaphragm, making a circle of continuous sutures, and immediately opening the abscess through the diaphragm by an incision in the centre of the ring. No pus and no air entered the pleural cavity.

*Suture of the Bladder.*—Since the revival of the suprapubic operation upon the bladder, many surgeons have been studying the best method of closing the wound in that organ. Where the walls of the bladder are covered with peritoneum, a Lembert suture will secure union as in any other peritoneal wound, and wounds of the bladder have often been closed in that way; hence one bold surgeon has even suggested that every cystotomy should be performed intra-peritoneally, so that primary union could be obtained—a suggestion which is not likely to obtain favor, for the results of the ordinary operation are too good, even if an occasional fistula does prove obstinate. It is necessary, in the first place, that none of the material used for suture should project into the bladder, for it forms a nucleus for stone formation, and even catgut cannot be used in this way. Von Antal suggested (*Centralbl. f. Chir.*, 1885, 297) to bevel the edges of extra-peritoneal wounds of the bladder externally, so as to increase the extent of surface which could be brought together by sutures, as is often done in vesico-vaginal fistula, for instance. Brenner (*Arch. f. Chir.*, xxxv., 33) has lately recommended a suture passed around the wound in the bladder like a purse string, so as to pucker it up when drawn tight. Two sutures are employed, one being passed in the submucous layer, and one in the muscular, each about one eighth of an inch from the edge of the wound. The inner one is tied first, the mucous membrane being turned up into the wound, so that epithelial surfaces are everywhere in contact; then the muscular suture is tightened over that. In experiments on animals he has obtained excellent results. The usual method is to unite the wound in a linear manner, with fine thread and continuous or interrupted sutures, passed so as not to include the mucous membrane. But it is very exceptional to obtain complete primary union, although partial union is sometimes secured, and the sutures always do good by preventing the exit of the urine for a couple of days, and by that time the wound is granulating and the danger of urinary infiltration has been reduced to a minimum.

In speaking of the urinary organs we must not forget that brilliant results have recently been obtained in suturing the male urethra after rupture, or after resection of a strictured part. Successful cases of transplantation of skin or mucous membrane in the place of the excised tissue have also been reported. The material used for the sutures has been fine silk or catgut, but there are no special technical points to be noted in their insertion.

*Cæsarean Section.*—One more peculiar problem in abdominal work remains to be described, and that is the treatment of the uterine wound in the Cæsarean section, the successful solution of which by Sänger has resulted in restoring that old operation to favor instead of the mutilating Porro and Müller operations. The advance lay in applying the principle of the Lembert stitch here also, and the most approved method at the present day is but little more than an ordinary Lembert suture. A row of sutures is passed first, including all the tissues except the mucous membrane, the peritoneum being inverted into the incision when the knots are tied. A second is then passed, picking up only the peritoneum, which can be made to slide over the subjacent tissues and to cover in the first line of sutures. Primary union is easily obtained by this method.

NOTE.—Figs. 1, 2, 5, 6, 7, 9, 10, 14, 15, and 16 are taken from Esmarch's "Handbook of Surgery" (translated from the third German edition by B. F. Curtis, M.D.); and Figs. 3, 13, 20, and 21 are from J. Greig Smith's "Abdominal Surgery."

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## APPARENT CANCEROUS TRANSFORMATION OF SYPHILOMA OF THE TONGUE—EXCISION OF THE TONGUE BY THE GALVANO-CAUTERY.[1]

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THE possibility of the existence of a combination of syphilis and carcinoma has recently attracted some attention from the profession, and it has been claimed in certain quarters that a transformation of a syphilitic into a cancerous process is possible. The first cases of combined cancer and syphilis were reported by Jonathan Hutchinson, and following him Langenbeck directed attention to this unusual class of cases. Lang, of Vienna, recently exhibited a case of the kind before the "Medizinisches Doctoren Collegium." The patient was a woman who had suffered from syphilis for a protracted period. Scars of former syphilitic processes were present upon the trunk and face, the palate being perforated, and the upper lip having suffered considerable loss of substance. At the time she came under Lang's observation, most of the ulcers were covered with a white scab, the histological examination of which did not reveal any sign of importance from a diagnostic standpoint. About a month later, however, a small, white, indolent ulceration appeared upon

[1] Read before the Mississippi Valley Medical Association, September 10, 1889.

the hard palate. A small portion of the involved tissue was excised, and upon microscopical examination by Professor Weichselbaum, was found to be epithelioma. In the course of the discussion Professor Lang stated that he had observed three other cases which were very similar, the development of the carcinoma upon a syphilitic soil being demonstrated in each instance by microscopical examination. The first case, which came under his observation in 1883, had suffered from a characteristic course of syphilis, which included numerous relapses of iritis and gummatous ulcerations upon the face. Under anti-syphilitic measures all of the ulcerations cicatrized, with the exception of one, which became transformed into a cancroid of the skin.

The second case was that of a man, aged forty-six, who had suffered from various syphilitic ulcerations on different parts of the face and body. After anti-syphilitic treatment one ulcer, located beneath the tongue, proved resistant to treatment, and became transformed into cancer. In the third case a syphilitic infiltration, located in the lower lip, underwent a relapse at the end of a year, and assumed a carcinomatous character.

It is unfortunate that the profession have not more carefully noted the cases in which carcinoma has developed upon a syphilitic base. There are many cases in which careful study might demonstrate the casual relation of syphilis to malignant disease.

The case which I have had the opportunity of observing, and here recording, was one the progress of which I had been enabled to study for a protracted period, and there can be no possibility of doubt as to the primary condition upon which the malignant disease that eventually destroyed the patient's life was engrafted. In recognizing the transformation of syphilitic processes into cancer, I do not wish to be understood as claiming that the histological elements of syphilis may be transformed into those characteristic of cancer, but that the elements of syphilis having been removed, they leave the tissue so damaged that continued irritation will result in cancerous degeneration. On the other hand, a syphilitic process may recur so frequently, and be so obstinate to treatment, that the irritation thereby produced is capable of causing cancer.

It is as yet too soon for us to discuss the question of the existence of special bacilli in syphilis and cancer for the purpose of disproving the possibility of the transformation of the one into the other. It is conceivable that both cancerous and syphilitic deposits may act in the same manner as other irritating processes in the tissues. It is to be presumed that if a cancer were present in the mouth of a syphilitic subject, syphilitic processes would be more apt to develop in the vicinity of the malignant disease than elsewhere. A somewhat similar relation exists between the presence of the syphilitic process and the development of carcinoma. Whether actual transformation can occur or not, it is certain that cancer may develop in tissues which are indubitably affected by a syphilitic process, and that said cancer may go on to destruction of tissue, and finally, of the life of the patient. This may occur without any preliminary change in the physical appearance of the tissues affected by syphilis prior to the development of the cancer. I feel warranted in speaking thus positively from my experience with a case which I am about to relate.

In regard to the bacillus of cancer, it is as yet an unknown quantity. As far as the bacillus of syphilis is concerned, no one has, so far, been able to positively demonstrate that the supposed bacillus of syphilis is really the specific bacillus. In the words of Dr. N. Senn, "that syphilis is a specific disease cannot be doubted, that it is due to a microbe cannot be doubted, but to establish this positively, experimenters must do what Koch did before he announced the specific origin of tuberculosis."

To put the matter of the transformation of syphilis into cancer concisely, I would say that I do not believe that syphilitic cells can possibly be transformed into cancer cells; but I infer that the irritation of the tissues produced by the former may, in the presence of favorable constitutional and local conditions, develop a new process of tissue-building or neoplastic formation which will result in the formation of cancer cells. I have taken the liberty of relating my own case in detail.

Case.—The patient, a man, aged twenty-nine, contracted syphilis at the age of eighteen. He stated that at that time he contracted a hard chancre, which inflamed and caused paraphimosis, which lasted about a month, and left the mucous membrane of the penis in an irritable condition that resulted in the frequent appearance of fissures and ulcerations, some of which were treated by me from time to time after he came under my care. Secondary symptoms appeared about four months after the primary sore, and according to the description a pronounced papulo-pustular eruption appeared and resulted in considerable scarring of the skin. Mucous patches presented themselves in successive groups, and, as the patient expressed it, "were very annoying, especially those upon the tongue." After the secondary period became manifest the physician in charge of the patient put him upon mercury, a thorough course of which was given for about three months, when he went to the Hot Springs. He remained at the Springs for three months, was rubbed with an enormous amount of mercury, and badly salivated twice. He went home, and at the end of two months eruptions again appeared upon the body, with also larger mucous patches than before, his tongue at this time giving him some considerable trouble by reason of the general soreness of the organ. At this time an old eczema of the hands, which had troubled the patient off and on all his life, broke out, and in combination with the syphilis gave him a great deal of trouble. He again went to the Springs and remained there for eleven weeks, during which time he took mercury internally quite freely. He again went home, and was apparently well for three months, when mucous patches and eruptions broke out, sores appearing at this time upon the penis. About five years after the beginning of the syphilis the patient fell under the care of a physician who again rubbed him freely with mercury, the treatment being continued for about six months. He improved for a time and then quit treatment, as such patients so frequently do; but again got worse and went back to the same physician, and for at least eighteen months took mercury in considerable quantity. He was then advised to go to Mount Clemens, Mich.; he remained there about fifteen months, and while there became entirely well of his eczema, the syphilis, however, never leaving him entirely.

In 1884 the patient consulted me for the first time. He had then unequivocal cerebral syphilis, and tuberculo-squamous syphilides in considerable number were scattered about the forehead, forearms, and thighs, with a few scattered squamæ upon the trunk. Scars of former pustular syphilides were visible upon the forehead, forearms, and legs; the tibiæ and sternum were excessively tender, and considerable pain was experienced at night. Cephalalgia was a constant symptom and gave the patient intense suffering. An apparently gummy ulceration, with several fissures, existed upon the penis, just back of the corona.

The tongue was rough, and coated with a thick, dirty, yellowish-gray fur, with marked dryness in the centre and posterior part of the organ. Several tubercular nodules were also observable, one in the centre of the tongue, and the others near its base, those upon the right side being especially marked. On inquiry I found that the tobacco and alcohol habits had been persisted in for a greater portion of the time that he had been under treatment, and, much to my surprise, he informed me that his physicians had not restricted him in the matter of either indulgence. The treatment at this time was very vigorous; cod-liver oil and iron were ordered, on account of the patient's marked debility. The mixed treatment and the iodide of potassium in saturated solution were given, the iodide being run rapidly up to a dose of three hundred grains per diem, and maintained at that point for three weeks, the

disease being completely resistant to treatment until the end of that time. Local applications of the acid nitrate of mercury were made to the tongue from time to time, and with apparent benefit. As soon as the symptoms began to yield to treatment the dose of the iodide of potassium was diminished to about sixty grains per day, the tonics being meanwhile continued. At the end of three months the patient was free from trouble, with the exception that his tongue was more thickly coated than ever (psoriatic), and the nodules upon its surface were still perceptible. No amount of care and treatment ever caused this condition of the tongue to disappear entirely, and, as the history will show, it subsequently became the source of terrible trouble. The case remained comparatively well until about five months ago, the tongue creating some uneasiness from time to time on account of commencing ulceration of the nodules upon its surface, but yielding rapidly to treatment. On each occasion, however, the nodules and furring of the tongue became more prominent, and remained so in spite of treatment, the furring becoming a sort of membranaceous deposit, like wet chamois leather, which reformed as fast as it was removed.

At this time, while at the Hot Springs under the care of Dr. Vaughn, the tongue began to swell, and assumed a threatening appearance; the nodules began to ulcerate, and at one time a severe hemorrhage occurred.

I have not received the complete history from Dr. Vaughn, but suffice it to say, that after all means of treatment had been tried for two months without avail, the case was pronounced probably cancerous by the attending physician and several others who saw it in consultation. At this time Dr. Vaughn referred him to me with a view to possible excision. Upon examination I found the tongue filling the mouth and pressing upon the teeth in such a manner that it had become eroded and ulcerated by them. Salivation was profuse; a deep ulcer existed at the centre and back part of the organ; the enlargement seemed to be rather more marked upon the right side. The submaxillary glands were slightly enlarged; there were no other lesions present upon any part of the body.

Microscopical examination at this time failed to demonstrate the presence of cancer. No further examination of the tissues was made until after the tongue had been excised.

As the patient experienced great difficulty in masticating and swallowing, he was subsisting entirely upon fluid food, and, not being very robust primarily, had become greatly emaciated. The treatment instituted was chiefly a tonic one, in conjunction with an alterative mixture containing iodide of sodium and the chloride of gold; milk punches were allowed, and the patient instructed to take as much sweet cream and milk as he could without creating digestive disturbance. Local applications were made of a compound of carbolic acid, iodine, and menthol, in mild strength. Improvement was at first very rapid, and at the end of a week the tongue was nearly reduced to its normal size. In a few days, however, it again enlarged upon the right side, this enlargement being peculiar in that it was limited by the raphe, the tongue being at least double the thickness upon the right side that it was upon the left. The appearance was precisely the same as that presented by several cases of acute glossitis that I have seen, and resembled it strongly in the rapidity of its appearance; the increased thickening having come on within twenty-four hours. This condition of the right side of the tongue soon subsided, but was succeeded by enlargement of the tubercular nodules previously mentioned, and by the appearance of several new nodules. These appeared not upon the margin of the tongue, but upon its upper surface. In a few days the left side of the tongue underwent a diffuse enlargement, precisely similar to that which had occurred upon the right, and in exactly the same way subsided, and was succeeded by the development of tubercular nodules. The whole tongue now gradually increased in volume, and became so large that it hung over the edges of the teeth and protruded through spaces left by the extracted teeth. There was little or no pain, and such as there was was referred by the patient to the "holes," as he expressed it, worn in the tongue by the teeth. As soon as the case began to get worse the chloride of gold, or alterative mixture, was stopped, and the iodide of potassium was again run up to three hundred grains per diem; there seemed to be some improvement, and the drug was stopped for two weeks. At the end of this time it was again begun, as the case had again assumed a threatening aspect, and was now increased to the enormous dose of six hundred grains per diem. I soon became convinced that the iodide had lost its effect, and was producing no result, unless perhaps increasing the swelling of the tongue. Mild inunctions of mercury were tried next, at the suggestion of a professional friend, but they merely served to make the case worse, as had been my experience with his previous troubles.

Punctate cauterization with the galvano-cautery was tried, with some reduction in the size of the tongue. Soon after this, however, sloughing began, and destroyed the greater portion of the right side of the organ, the remainder of the tongue being undermined and eroded, and the floor of the mouth extensively invaded by the central ulcer, of which mention has already been made. During this time I exhibited the patient to a number of my professional friends, among whom were Drs. Hawley, Hayes, Zeissler, and Baxter, all of whom pronounced the trouble syphilitic, agreeing with my own diagnosis.

The case went on from bad to worse, many different plans of treatment being tried without avail. The sloughing continued until the tongue was in such a condition that even if healing had been possible the organ would have been practically useless. The base of the tongue was a foul mass of hyperplastic ulcerating tissue, the odor and secretion from which were not only offensive to the patient but were prominent factors in producing the constitutional disturbance. There seemed to be no hope of benefit from either internal or local medication, and, in addition, the malignancy of the process appeared to be now established As the patient was anxious to have something done to remove the foul and stinking mass from his mouth, I proposed excision with the galvano-cautery, an operation to which he readily consented.

*Operation.*—The operation was performed on July 30, 1888, with the assistance of Drs. P. S. Hayes and W. S. Walker, and Mr. Knight, medical student. The Fleming battery was used, with a platinum wire of moderate size. A preliminary tracheotomy was not performed because of the objections of the patient. Great difficulty was experienced in the operation, on account of the necessity of separating the tongue longitudinally, there being a large mass of ulcerating hyperplastic tissue at the base of the organ which required removal. It was found to be impossible to transfix the base of the tongue transversely with a needle, and at the same time it was necessary to have something as a purchase for the wire. A stout needle with a long double thread, to prevent its being detached and swallowed, was passed obliquely from above downward and forward as far back upon the base of the tongue as was practicable, a long needle-holder being used for this purpose. The wire was slipped over the needle and made to include as much of the base of the tongue as possible. The anterior portion of the tongue was readily included in the loop, as it was separated from the floor of the mouth in such a way that the electrode needle was readily pushed beneath it. A small amount of chloroform was first given, as I had found by previous experience that the patient was extremely resistant to ether. As soon as he was under full anæsthesia, however, ether was substituted for the chloroform and acted satisfactorily. The current was turned on and the operation begun, when, to my embarrassment, the patient became so asphyxiated that respiration ceased and the pulse at the wrist was hardly perceptible. I immediately detached the wire from the tongue and inverted the patient, my assistants at the same time performing artificial respiration. In about

five minutes the patient breathed as naturally as ever, and I was enabled to proceed. The current was again turned on, and the tongue about half burned through when the patient again became asphyxiated, apparently by the smoke produced by the burning of the tissues in combination with the accumulation of blood and mucus in the pharynx, there being quite free bleeding from a couple of teeth that were loosened in their sockets in the attempt to pry the jaws open while performing artificial respiration. The inverted position and artificial respiration were again resorted to, but it was fully fifteen minutes before it was considered safe to proceed. The tongue was finally completely excised. About the time the operation was completed the patient again stopped breathing, and a repetition of the previous performance of resuscitation became necessary.

I would not advise an operation of this kind to be performed without a preliminary tracheotomy; I certainly should not want to perform it again myself unless the patient would consent to be tracheotomized. The operation altogether occupied about two hours. The patient, three hours after the operation, was able to get aboard a street-car and ride to the hospital. At the end of a week the eschar produced by the cauterization became detached and left a surface of fairly healthy appearance; the fetor of the breath was improved and the sloughing of the base of the tongue ceased. The floor of the mouth healed nicely, and remained in a tolerably healthy condition for several weeks; the submaxillary glands became smaller, and the general condition of the patient improved considerably. About a month after the operation, however, the submaxillary glands again enlarged, becoming larger than ever, and quite tender. There was comparatively little pain save a moderate amount of cephalalgia and otalgia. The ulcerative process on the floor of the mouth recurred, but did not progress rapidly nor ulcerate extensively. A small ulceration formed upon the right pillar of the fauces. These symptoms practically settled the question of malignancy. Professor I. N. Danforth, having examined the specimens excised, informed me at this time that the case was of a sarcomatous character, but I inferred from his report that it did not present typical characters. About two months after the operation an abscess formed in the submaxillary glands; this, when opened, gave exit to a thin, sanious fluid. Pain at this time was very severe. At the end of about three months an occasional slight hemorrhage from the mouth occurred. The patient finally died, about four months after the operation, from a sudden hemorrhage occurring during the night.

This unfortunate case is, in many respects, unlike any other that I can find on record. The literature of the subject is very meagre. During the course of the disease there were present distinctive features of several forms of glossal affection. During the four years that the patient was under my observation the tongue presented gummy nodules and ulceration, lingual psoriasis, diffuse syphilomatous deposit, and latterly attacks of subacute glossitis. At various times before coming under my observation—and once since, as shown by the history—mercurial stomatitis occurred, and formed an important feature of the case, particularly, I think, as regards the etiology of the process which finally necessitated removal of the tongue. Prior to extensive destruction of the organ these various conditions merged into a general hypertrophy, the tongue becoming extremely indurated. These various features must be taken into consideration in studying the case.

Macroglossa, or hypertrophy of the tongue, of a simple character is very rarely seen, and few cases are on record of congenital origin. According to the published researches of Fairlie Clark,[1] hypertrophy of the tongue occurring later in life may arise "spontaneously" (?), or from wounds, mercurial salivation, or as a consequence of diffuse inflammation from scarlet and other forms of fever. I will also add to these causes constitutional syphilis.

Attrition against the teeth in these cases of macroglossa produces from time to time attacks of acute or subacute glossitis, each of which leaves the tongue more enlarged than before (König).[2] This has been a prominent feature of the case at present under consideration. The best authorities have recommended for the cases of simple macroglossa the use of astringent solutions in combination with compression. It is obvious that the latter measure is not applicable to cases like my own, whether malignant or not, in which necrosis of tissue is such a prominent feature. Clark reports forty-three cases, nine of which were cured by compression and astringents. In some cases excision of portions of the tongue has been performed with a successful result. This measure was not to be thought of in the case under consideration.

The causes which operated in the production of the lamentable condition of my case were, in my estimation, several. In the first place, it will be conceded that the numerous attacks of glossitis and stomatitis necessarily left the tongue in a more or less damaged condition, and caused a chronic condition of irritability which favored a deposition of syphilomatous material in the organ at any time when the constitutional disease should become active. That the prolonged and injudicious use of mercury, independently of salivation, is prone to induce inflammatory and ulcerative processes of the mouth and the structures contained in its cavity I firmly believe. Authors are united in the view that the excessive use of mercury is a frequent cause of glossitis. It is probable that the excessive, although necessary, use of iodide of potassium still further enhanced the morbid condition of the tongue. It is reasonable to suppose that such might be the case when we take into consideration the fact that the salivary glands are heavily taxed in the elimination of iodide of potassium as well as of mercury.

The continued use of alcohol and tobacco, in combination with the irritation produced by diseased teeth, completed a chain of circumstances which, in combination with the syphilitic cachexia, favored the development of the morbid process in the tongue.

The condition known as ichthyosis or psoriasis of the tongue is due to the same causes as generalized glossitis, and is really part and parcel of that process in which the inflammation is localized upon the surface of the mucous membrane.

According to Hulke,[3] ichthyosis of the tongue consists essentially in hypertrophy of the epithelial and papillary elements of the mucous membrane. The relation of ichthyosis or psoriasis of the tongue to syphilis and cancer is very important, and all authorities unite in acknowledging its relation to syphilis, although it may occur in non-syphilitics. In appearance it resembles, in some cases, a deposition of wet chamois leather upon the surface of the tongue, as described in my case, which rapidly reforms after removal. In other instances it resembles a thin layer or film of coagulated albumin, and in these cases each successive deposit is more dense and adherent than the preceding. The condition is prone to develop epithelioma, as Weir[4] has shown most conclusively by the history of 68 cases, of which number 35 eventually developed epithelioma.

Hutchinson has also advanced the opinion that cases of syphilitic disease of the tongue are especially prone to develop epithelioma later in life.

That a condition similar to that of my case may undergo a transition into epithelioma or malignant sarcoma seems plausible, and such a transition I believe to have occurred in this instance. The presence of epithelioma, or its subsequent development in such a case, would be no argument in my estimation against the accuracy of the previous diagnosis of syphiloma, inasmuch as it is conceded by the best authorities that such processes are prone to undergo a malignant transition. The course of this case and its history are widely different from the ordinary

[1] Diseases of the Tongue.

[2] Lehrbuch der specielen Chirurgie, 1878.

[3] Clinical Society Reports, vol. ii., p. 1.

[4] New York Medical Journal, March 18, 1875.

clinical features of epithelioma of the tongue. Epithelioma of the tongue, beginning four years ago, would not have lasted as long as this condition. The average duration in cancer is less than two years. The age of the patient would warrant a doubt as to the existence of carcinoma, cases under forty years of age being very rare.

There was at no time in the history of the case a cancerous cachexia, and the constitutional condition fluctuated quite markedly, depending upon the amount of nourishment that the patient was able to take. Several weeks after the operation he was in better flesh than at any time for two months previous.

The attacks of glossitis which occurred from time to time necessarily modified the clinical aspects of the case, and obscured the distinctive points in differential diagnosis. There are some features, however, that deserve mentioning in contradistinction to those of ordinary cases of cancer. The enlargement of the tongue was general, and the sloughing began at several points, this being decidedly unlike cancer, which is usually localized at the beginning, invades successive areas of the tongue, and does not attack more than one point, from which it gradually progresses. The induration in cancer extends with the ulceration, while in this case it became general before the ulceration had advanced to any extent. The ulceration, instead of beginning underneath the tongue or at the border of the organ at some particular point, as is the case in cancer, first attacked the tubercular nodules previously described upon the upper surface of the tongue near its centre and base. One peculiar feature of the process was a clean dissection of one-half of the organ, the process being temporarily limited at the raphe; a line of progression that is very noticeable in syphilitic conditions, and which has given rise in my own mind to the belief that some of the late lesions of syphilis are of a trophic character and the result of the syphilitic impression upon the sympathetic nervous system—a point upon which I will expatiate more fully in a subsequent paper.

There was a marked improvement from time to time in this case. Indeed, there were times when it seemed as though the disease was under control and recovery probable. In this respect there was a marked contrast with the classical course of cancer, in which the disease grows progressively worse until its close. After the operation the parts assumed a healthy appearance, the tendency to bleeding was entirely checked temporarily, the disagreeable odor disappeared, and the patient assumed a better color than before.

In ordinary cancer the tongue becomes absolutely immovable, while in this case there was some mobility at all times, and considerable during the periods of temporary improvement. The tongue was left harder and more indurated after each exacerbation of glossitis. The absence of pain until late in the case was quite remarkable, and presented a marked contrast to the course of cancer, in which the pain is usually very severe. The persistent enlargement of the lymphatic glands at the angle of the jaw was the most suspicious symptom in the case, as indicative of possible or probable malignancy, yet I think too much stress has been laid upon this feature of glossal troubles as pathognomonic of cancer; for, although late syphilitic lesions do not produce enlargement of the glands *per se*, the septic process which results from necrosis of the tissues, and the decomposition of food which may adhere to the uneven surfaces of ulcerations upon the mucous membrane, may give rise to irritation of the neighboring glands. Thus it seems that it is by no means necessary that cancer should exist in order that lymphatic glandular reaction may be produced.

In view of the great danger of processes similar to those which so long existed in my case, resulting in the development of malignant disease, it would seem that we would be justified in adopting some radical measure. Had I to go through with a similar case again, I should profit by my experience and destroy the tubercular nodules as well as the thickened mucous membrane upon the surface of the tongue with the actual cautery. There is, of course, no means of proving the success of this line of treatment, and I may never have an opportunity to put it into practice on account of the rarity of such cases; but I believe that had it been done in this instance the malignant process might never have developed. No remedy short of actual destruction would seem likely to be beneficial to such conditions. The only remedy which ever seemed to effect the ichthyosis of the tongue in this case was a saturated solution of salicylic acid, which seemed to check the progress of the disease and improve the condition of the tongue for some little time, when it finally lost its power.

The precise period at which a malignant was substituted for a syphilitic process would be hard to determine. I am by no means convinced that the diagnosis of syphilis, made several months before the operation of excision of the tongue, was incorrect. The course of the case was certainly unique. Whether the time of the transition into a malignant process could have been determined by frequent microscopical examinations is questionable. Such microscopical examinations of the case as were made were at the hands of competent microscopists; but I am free to say that the results were hardly satisfactory, nor do I think that they themselves considered them to be be so.

The condition present in the case which I have related might have been mistaken for tuberculosis of the tongue. The history and course of the case, however, militated against such a diagnosis. Tuberculosis is rare as a secondary condition, and still rarer as a primary disease of the tongue. In twenty-six cases collected by Delavan,[1] nine out of twenty-six were primary; in this series the primary cases were of greater than the average frequency.

Such cases certainly serve to impress upon us the necessity of recognizing and radically treating precancerous states of the tongue. Mr. Butlin, in a recent essay before the Harveian Society of London,[2] stated that in quite a number of cases which had been under his observation carcinoma of the tongue had been preceded by a condition which was so definitely associated with the subsequent development of cancer as to deserve the designation "precancerous." This condition he observed in over seventy per cent. of cases of lingual carcinoma. Papillomatous or warty growths were apparently the most dangerous of the morbid states which actually and immediately preceded the development of cancer. Such warty growths he showed to be much more frequent than was generally believed. The question arose as to whether it would be proper in cases of leucoma (leucoplakia buccalis?) and chronic glossitis of a superficial character, in which warts or warty growths develop on the surface of the tongue, to remove the entire diseased area, or, at least, the anterior portion of the organ, instead of, as is usually done, removing the warty growth with a certain area of the surrounding tissue. Two cases were related in which wart-like growths developed on tongues affected by leucoma, and were removed, and in which, later on, carcinoma developed, but not at the site from which the warts had been removed. The internal administration of liquor arsenicalis was advised in all cases of chronic disease of the tongue which were associated with various forms of chronic disease of the general integument of a non-specific character. Several cases were also related to demonstrate the advantage of early excision of cancerous affections of the tongue. In view of the fact that in chronic syphliitic, or other affections of the tongue, protracted irritation is apt to develop cancer in the already degraded tissues, it is desirable to avoid applications of an irritant character. The nitrate of silver particularly ought to be used cautiously as a stimulant or astringent, but never as a caustic. When it seems desirable to destroy portions of diseased tissue by means of caustics, the galvano-cautery is the best method for accomplishing the object. In lieu of this, some active cauterant should be employed, such as chromic or nitric acid.

[1] New York Medical Journal, 1877. [2] Analectic.

## Clinical Department.

### THE SEQUEL OF THE CASE OF CEREBRAL ABSCESS TREATED BY TREPHINING.

DR. J. W. WRIGHT, of Bridgeport, Conn., writes: "The sequel of the operation for cerebral abscess detailed in THE MEDICAL RECORD of September 21, 1889, page 317, should now follow, since it reveals the cause of both the abscess and the failure of a permanent cure. In September the patient again commenced to fail, from a recurrence of his former symptoms, and a second operation was performed by the surgeon then on duty, Dr. Worden, September 21st. A small quantity of pus was found and a drainage-tube inserted, but patient died on second day.

"The autopsy revealed the fact that a wire nail two inches long had been driven through the skull into the brain, the head of which was sunk into the bone. It had entered the left parietal bone close to the sagittal suture, two inches in front of the occipito-parietal sutures. The point was the centre of an abscess in the white substance of the brain, which involved the parietal lobules and encroached upon the post-central convolutions. The abscess had not ruptured into the ventricles.

"From facts since disclosed, it is probable that the nail was driven into his head on May 17th, by falling on some boards containing nails of that size and style."

### TWINS WITH ONE PLACENTA.

DR. J. H. STRAUGHN, of Lexington, Mo., writes: "January 31, 1886, I was called to see Mrs. J. W——, in labor. After the birth of the first child, on making an examination, I was satisfied that there was another child in the womb. After tying the cord of the first child, I made traction on the cord for the purpose of delivering the placenta, but the woman complaining that 'I was killing her,' I desisted. In a short time labor pains set in again, and the second child was soon born. I then delivered the placenta, and found that there was but one for the two children. The umbilical cord of each child was attached near the periphery, about equidistant in each case. The children were both girls, one weighing four, and the other four and a half pounds. They are both alive and well at this writing, so far as I know."

### LATE PREGNANCY.

DR. J. S. DOLSON, of Hornellsville, N. Y., writes: "In accordance with your request for reports of late pregnancies, I send you the report of one in my practice, many years since. Mrs. S——, County of Steuben, this State, was confined in the summer of 1856, she being then fifty-two years of age. This was her fifth confinement and the sixth child, having had one pair of twins. The same week that I attended the mother, fifty-two years of age, I also attended the daughter, aged twenty-two."

CHARCOT'S OPINION OF PROFESSIONAL WOMEN.—M. Charcot, one of the jury of the Faculty of Medicine in Paris, in complimenting a young lady who had obtained her doctor's degree, said that "women pass their examinations, when they do pass them, even more satisfactorily than men; but what will be always a bar to their success is that they have no real love of their proposed profession. What they aspire to is the first rank, the most prominent posts, the most lucrative offices; and what they dislike is the humble and unpleasant, but necessary, service of humanity, such as is given by the hospital dresser." Curious, but precisely the same thing might just as correctly be said of men.—*Chemist and Druggist.*

## Progress of Medical Science.

OPERATIVE TREATMENT FOR PROSTATIC HYPERTROPHY.—Professor Kümmel, of Hamburg, in a paper lately read before the Congress of the German Society of Surgery, stated that he had performed on six patients a partial extirpation of the hypertrophied prostate gland. His cases were very grave, as they had resisted all other methods of treatment. There was fever, bronchitis, and considerable vesicular dilatation. In such cases the operation is indicated, while it is the contrary when the kidneys are seriously involved, or when there is a complete paralysis of the bladder. In this last case the operation is useless, for even after the suppression of the obstacle spontaneous micturition cannot be re-established. To extirpate the prostate gland he performs superior cystotomy; the bladder is very carefully washed out, and he then destroys, by the aid of the thermo-cautery, not only the median lobe, but also all the parts of the gland which project into the bladder. He then sutures the bladder, and allows Nélaton's sound to remain in it. Out of six patients, one died from collapse, in another the operative result was negative, four are cured and can urinate spontaneously. In the discussion that followed, Professor Socin, of Bâle, said he believed the enlarged prostrate was not so often accountable for the evil symptoms observed as is the cystitis, which is so frequent a concomitant. He thought that the good results which sometimes follow extirpation of the prostate gland are due, probably, more to the washing out of the bladder and to the sound left in position—that is, to the treatment of the cystitis—than to the operation itself. The cystitis is the first enemy to combat in the treatment of prostatic enlargement.—*Medical News.*

INSANITY FOLLOWING MUMPS.—Dr. R. Percy Smith, Medical Superintendent of Bethlem Hospital, London, England, has recently called attention to the occurrence of insanity as a sequela of mumps, giving two illustrative cases which came under his own notice (*The London Medical Recorder*). A lad, aged nineteen, had had good health previously, and there was no neurotic family history. A fortnight before admission he had suffered from mumps, which was epidemic at the time in the district. The attack was complicated with exhausting diarrhœa. Five days before admission he became excited and passed into a condition of acute mania, from which he rapidly recovered in Bethlem. The other case was that of a young medical man, who, after an attack of mumps complicated with severe orchitis, became depressed, suspicious, and suicidally inclined. He recovered after a time, without its having been necessary to send him to an asylum. Dr. Smith thinks that in each of these cases the extreme exhaustion caused by the complication of diseases had more to do with the induction of insanity than fever or metastasis.

EFFECTS OF PROLONGED CHLOROFORM ANÆSTHESIA.—Some observations, made about two years ago by Dr. Ungar, pointed to fatty degeneration of the heart and liver as the cause of death after repeated prolonged administration of chloroform. Further experiments on dogs have recently been made by Dr. Strassman, which appear to confirm this view. Dr. Strassman found that the first organ to be affected was the liver, then the heart, and after that other viscera. The nature of the morbid change was not a fatty degeneration, but fatty infiltration. The actual cause of death in fatal cases appeared to be the cardiac affection, as in all such a very marked degree of change was found in the heart. In non-fatal cases the morbid change was found to have disappeared in a few weeks' time. When morphine was given previous to the chloroform, less of the latter was required, and, consequently, the changes produced were not so considerable as when the ordinary amount was given. Animals suffering from hunger, loss of blood, etc., were especially predisposed to the morbid changes due to chloroform.—*The Lancet.*

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## THE BRAIN-WEIGHT OF MAN AND WOMAN.

THE subject of the comparative weight of the brain of man and woman comes up periodically, and almost always some incorrectness of statement or inadequacy of knowledge is to be observed. Perhaps a certain feeling of gallantry tempts speakers and writers to handle tenderly facts apparently in conflict with the view that woman is encephalo-morphologically the equal of man.

The average weight of the male brain is 49½ ounces—of the female, 44 ounces; a difference of over five ounces. Woman's brain has a higher specific gravity. The man has a larger brain in proportion to stature (Marshall), but woman's brain is larger in proportion to her weight. In 239 Russian brains (Buchstab) the ratio of body-weight to brain-weight was for the male as 38 to 1; for the female, 35 to 1. In woman the brain is shorter in the sagittal diameter, being from 6⅞ to 6¾ inches in man, 6 to 6⅜ inches in woman (Huschka). The transverse and vertical diameters are more nearly equal in the two sexes.

The frontal lobe is better developed in man, the distance from the anterior extremity of this lobe to the upper end of the fissure of Rolando being in males 152.9 mm.; in females, 140.6 mm. (Buchstab). On the other hand, the occipital lobe is more developed proportionately in woman, the distance from the point of the occipital lobe to the parieto-occipital fissure being in males 48.7 mm.; in females, 51.4 mm. This is for Russian brains, which are a little smaller than German and English, a little heavier than Italian and French brains.

The difference between the weight of brain in man and woman increases with civilization, and is most marked in the Caucasian races. In Parisians this difference amounts to 222 grammes, or nearly seven ounces; in European nations generally, 163 grammes; in Hindoos, 120 grammes; in Australians, 103; in negroes, 82; in Chinese, 15.

The greatest sexual difference as regards brain-weight is found at birth, when the female brain weighs 347 grammes, and the male 393, or about ⅛ more, while the total weight of the male infant is about $\frac{1}{15}$ more than that of the female. The female brain begins to lose weight after the age of thirty, that of man not till ten or fifteen years later. The loss in woman is very slight, however, and she keeps up a high brain-weight much later (till seventy) than man, so that in old age the difference in brain-weight is reduced to its minimum, or a little over three ounces.

Definite statements cannot be made regarding the sexual differences in convolutional complexity, or the thickness of the gray matter, two very important points in estimating the intellectual powers of the organ.

Despite much loose talk regarding the unimportance of brain-weight as a test of intellectual superiority, it is unquestionably an important factor. What Thurnam calls medium brains range in weight between 40 and 52½ ounces for men, and 35 and 47½ ounces for women. All brains in size above this are called megalocephalous. Now the tables of brain-weights collected by Bastian and others show that the proportion of great men who are decidedly megalocephalous is twenty-five per cent., while the proportion in average men is four per cent. to five per cent. The proportion of incipient megalocephaly (*i.e.*, weight above 52½ ounces) among eminent men is nearly sixty per cent. There can be no doubt that the majority of eminent men have large brains, just as the majority of ordinary men have forty-nine-ounce brains. Certain individual cases furnish exceptions, and distinguished talent can coexist with a small brain, but it is not the rule.

When a brain falls to a weight of 37½ ounces in a man, or 32½ ounces in a woman, it is called microcephalic, and the rule is that below these limits idiocy exists. There is just five ounces less amount of brain-matter, however, needed to keep a woman from idiocy than is needed for a man. Hence we may reasonably suppose that this, which is nearly the average difference in brain-weight of the sexes, represents not tissue necessary for mentality, but corresponds with the smaller muscular mass and shorter stature of woman.

## THE INVASION OF THE "MASSEUR."

WE must beg our readers to keep a close eye upon the *masseur*. He is bearing down upon unhinged humanity with a steady and relentless stride. He develops in the midst of us, he sails over from Germany and England to us, while, if there are any graduates of Heilgymnastik still left in Denmark, Sweden, or Norway, we should like to know it; for it has appeared to us, after some busy morning, that they have all called. Truly, the *masseur* is among us. He is a man of great resources. As his fraternity increases, he does not lose heart, or complain of competition, or seek protection from the State—he simply enlarges his field. In olden times the rubbing of a stiff knee with officinal linimentum saponis was the centre and circumference of massage; soon, however, we learned how soothing was the emollient and theobromated hand upon the hyperæsthetic skin and diseased muscle. The *masseur* became firmly established as the resourceful prop of hysteria and unfailing staff of morbid locomotion. But then the sinewy and insidious hand began to gather adventitious aids, and seek new worlds to conquer. Having organized its movements into a company of Gallic polysyllables, so that its manœuvres of *tapotiment* and *pétrissage* and *effleurage* should not be mistaken for plain, every-day slap-slap, jab-jab, and thump-thump, it proceeded to attack all the several diseases and organs of the body. Adipose tissue in excess was made to disappear, while glandular tissue, if mammary, was rubbed to make it grow. Massage has now applied itself to diseases of the eye, and granular lids are, *quoad* the granulations, artistically rubbed off; it has invaded the mouth and throat, reducing hypertrophied tonsils,

opening the Eustachian tubes, and curing catarrh and deafness. The abdominal viscera were the early and easy subjects for this now illustrious science. The colon's lax vermicular waves are tempestuously hastened, and the modest stream from the smaller bowel has scarcely babbled through the ileo-cæcal valve before it is rushed madly into the rectum. The pelvic organs have of late received the devoirs of this new art; and the uterus has been rubbed and stroked and pommelled, all in pure French terminology, until this martyr-viscus could not help but free itself from adhesions and congestions, and pillow itself gently on its original vesical cushion. Lastly, we learn that the heart is to have massage. The heart has been, we are told by poets, torn and bruised, and bled and broken; but it remains for modern science to see that it shall have *effleurage* and lomi-lomi.

There are still a few things left for the *masseur*. Can he not apply *tapotiment* to the brain, or, at least, to the cerebellum? Has he done justice to the kidneys? Might not the ovary receive a course of artistic jabbing before it is removed and bottled. When all fields are conquered, and every viscus springs responsive into blooming juvenescence beneath his learned touch, we recommend the *masseur* to Christian science.

### FIFTY YEARS OF COUNTRY PRACTICE.

Dr. Alonzo Garcelon, ex-Governor of Maine, is seventy-six years old and is still in the active practice of his profession. He this year completes the semicentennial of his medical career. The Lewiston *Journal* gives us some gossip regarding the doctor's life-work, but particularly about his travels. He estimates that with his horse and chaise he has driven about three hundred and sixty thousand miles, or fourteen times around the earth. Such an estimate is based on the supposition that he has travelled an average of a little less than twenty miles a day, or seven thousand two hundred miles a year.

This is, perhaps, a rather high estimate, but it is quite within the bounds of possibility.

The reflection which occurs to one in contemplating these figures is that an enormous amount of purely mechanical and unproductive labor has to be expended by the country doctor in his daily work. While this time is not by any means all lost, for there is health and mental rest, or, perhaps, productive ratiocination, in a moderate amount of ambulation, yet three hundred thousand miles is too far for the average man to go with horse and carriage, and expect to do the highest class of work in life.

It is all the more credit to Dr. Garcelon that he has succeeded in travelling pretty nearly as far as to the moon and back, and yet has acquired both political distinction and medical prominence. But the country practitioner most needs a means of locomotion swifter than the horse. Dr. Garcelon in riding his three hundred and sixty thousand miles has had to give up nearly seven solid years, and twenty years of working days out of his total fifty, simply in riding to his patients and home again.

### AN "INFALLIBLE ANTIDOTE" FOR MALARIOUS FEVERS.

Dr. Charles G. R. Naylor, Civil Surgeon, of Burmah, India, addresses a report to the Deputy Surgeon-General of British Burmah in which he asserts that carbonic-acid gas is an infallible antidote to malarious fevers of all types and durations. Dr. Naylor's report is republished in Edinburgh. It was first made eight years ago, but is now put forth again in an enlarged form and with the emphasis and confidence drawn from a fuller experience.

Dr. Naylor does not claim originality for his treatment. It was devised or discovered by Dr. John Parkin, of London, who tested its value while visiting the malarious districts of Italy, Spain, and West Africa.

The *rationale* of the gas treatment is expounded by Drs. Parkin and Naylor, but it is far from being satisfactory or scientific and it need not occupy our space.

The gas is administered in solution and is got in its cheapest form by dissolving bicarbonate of soda, gr. xxx., in three ounces of cold water, and throwing into the solution tartaric acid, gr. xx., in a powdered state, the mixture to be stirred rapidly once, and swallowed as soon as possible in a state of effervescence. The patient must be made to lie down immediately after, to prevent eructation and escape of the gas, so apt to occur in a sitting posture.

The doses of soda and acid must be decreased to suit the different ages of children, as gr. xxx. of bicarbonate of soda are not soluble in the small quantity of water suitable for administration in one dose to very young children.

Sometimes the soda is given first and followed by the acid.

The remedy is best administered just before the paroxysm is expected, or in the remission if the case be one of remittent fever. Dr. Naylor cites a long list of cases cured by the gas.

## News of the Week.

Dr. Carl Koeler, the discoverer of cocaine anæsthesia, has been made Instructor in Ophthalmology at the New York Polyclinic.

The Chicago Medical Library Association, incorporated in September last for the purpose of securing and maintaining a library for the advancement of the medical and kindred sciences, held its first regular meeting on October 4th, at the Grand Pacific, at which the following were elected officers: *President*, Dr. N. S. Davis; *Vice-President*, Dr. Edward A. Lee; *Secretary*, Dr. Bayard Holmes; *Treasurer*, Dr. E. Ingals. Dr. William F. Smith was made a Director in place of Dr. Mary H. Thompson. —*Journal of American Medical Association.*

The Southern Surgical and Gynecological Association will hold its next meeting in Nashville, Tenn., November 12, 13, and 14, 1889.

New York Obstetrical Society.—At the annual meeting of the Society, held October 15th, the following officers were elected for 1889–90: President, Dr. J. E. Janvrin; 1st Vice-President, Dr. H. C. Coe; 2d Vice-President, Dr. R. A. Murray; Recording Secretary, Dr. A. M. Jacobus.

The Beaumont Medical College, of St. Louis, was burned to the ground recently. The Faculty have, however, secured another building, and the lecture course will be continued.

"GYNAIA," A NEW DISEASE.—A Dr. Steinerkopf, who may be some relation to Dr. Holzerkopf, or perhaps Dr. Dammkopf, has discovered a new disease which he calls "gynaia," and which he defines as "the simulated existence of feminine moral qualities in the person of a man." An acute and learned commentator of Dr. Steinerkopf's disease thus describes it editorially in the *New York Medical Journal:* "The discovery made by Dr. Steinerkopf is, that what has been yclept effeminacy is in reality a disease which is curable, and not a concomitant of congenital anorchidia, or a resultant of an early training analogous to the subalar rearing of the offspring of a uniparous hen, when occurring in a male. This disease, "gynaia," is characterized by the exhibition of timidity, aversion to tobacco and to dogs of non-personal allegiance, manners of ratiocination untrammelled by the friction exerted by logic, and other qualities commonly observed in the typical human female."

GASTROTOMY FOR A SET OF FALSE TEETH.—It is stated by Connecticut papers that a young woman of Bridgeport, a domestic, who swallowed, or thought she swallowed, a plate of false teeth, was subjected to the operation of gastrotomy without finding the teeth. She still complained of agonizing pain and was sent to a hospital in New York, where (the doctors having been put in possession of all the facts) a second gastrotomy was performed, and on her recovery from ether a set of teeth prepared for the occasion was shown her, and she at once recovered from all pain and discomfort.

A CASE OF HYDROPHOBIA is reported to have occurred at Astoria, L. I. The disease attacked a saloon-keeper who had been bitten by a dog three months before.

DR. IRA HAWLEY BARTHOLOMEW, aged sixty-one, ex-member of the Michigan House of Representatives, ex-President of the State Medical Society, ex-President of the Michigan Agricultural Society, and who held the office of Mayor of Lansing, Mich., for three consecutive terms, died October 18th, of bronchitis. Dr. Bartholomew was well known in the medical world, and was a contributor to the prominent medical journals of the country.

MEDICAL SCHOOL DISTURBANCES IN CANADA.—A telegram from Montreal states that the students of Victoria Medical School are still in opposition to amalgamation with Laval. The Church has taken the matter in hand. Archbishop Fabre has sent the following letter to the Rev. Mothers Superior of the Hotel Dieu and the Catholic Maternity Hospitals: "On account of particular circumstances, I have ruled that no student in medicine can be admitted in your wards to follow a clinical course, unless he is bearer of a card of admission reading as follows: 'Laval University, Montreal; School of Medicine and Surgery of Montreal,' and signed by Drs. Mignault and Foucher, Joint Secretaries." It is believed that the students will now yield to the action of the authorities in uniting the Laval and Victoria Medical Schools.

MEDICAL CO-EDUCATION.—The announcement is made that the University of Pennsylvania contemplates throwing open her classes for the admission of women. No exceptions are mentioned, and the wording of the resolution, which was passed by the Faculty with but two dissenting votes, warrants the inference that the school of medicine was included.—*Times and Register.*

ROYAL LEPERS.—After having made out Francis I. and Henry VIII. syphilitics, the Russian emperors epileptic, the English scrofulous, the Bavarian imbecile, and the Spanish the last in stages of degeneracy, historical critics are discovering leprosy among kings and princes. A writer in *Notes and Queries* says: "There is, I think, no doubt that Henry IV. of England and Robert Bruce were lepers. About Henry III. I am not sure. But I have tried to discover any authority for what I am quite sure that I read some years ago—but where I cannot remember—that Adelicia of Louvaine, second wife to Henry I., became a leper, and that that was the real reason why, when a happy wife and mother, she left her second husband, William de Albini, to whom she was tenderly attached, and entered a convent."

THE DISSEMINATION OF TUBERCULOSIS.—The Berlin correspondent of the *Medical Press* says: "I have already repeatedly alluded to the labors of Dr. Cornet, in the Hygienic Institute under the auspices of Professor Robert Koch, in regard to the dissemination and prevention of phthisis. Being a Bavarian by birth, he some time back sent a copy of his publications to the Bavarian Government, with the request that they should put the correctness or otherwise of his views to the test. It was not to be expected that they should undertake an extended inquiry at the dictate of a private individual, but they did pass on the writings to the Ober Medizinal Auschuss. The referent on the occasion, Professor Bollinger, has decided to enter on an investigation as regards prisons. It is notorious that a great number of prisoners, nearly one-third, die of phthisis. Professor Bollinger has determined that they shall not die of phthisis contracted within the prison walls, *i.e.*, if Koch's views on its etiology are correct. For the future, all cells are to be disinfected as thoroughly as after cholera or the plague. Further than this, all prisoners already phthisical, or suspected of being so, are to be removed. All sputa are to be disposed of in the way recommended by Dr. Cornet. The proposed experiment has all the appearances of being a crucial one, and the results will be watched all over the world with great interest."

TYPHOID FEVER AT YALE.—Several students at Yale are down with the typhoid fever, but nothing like an epidemic prevails or is feared.

A BILL TO ESTABLISH A STATE BOARD OF HEALTH has been introduced into the Legislature of Georgia, but has met great opposition, and from accounts given is not likely to pass.

WILKIE COLLINS A MORPHINE TAKER.—*The Medical Press and Circular* says: "It will be recollected that one of his most sensational novels was entitled 'Science and Heart,' and that it portrayed a demoniacal doctor who vivisects his own child in his craze for biological investigation. Those who were familiar with the author's earlier novels and the spirit of good-nature which pervaded them, wondered at the flights of crazy rhodomontade which this book contained, but it now appears that when it was written, and afterward, until his death, he was the victim of morphimania, and that the agony gush which he wrote was the outward and visible sign of the brain aberration produced by the continual and excessive use of the drug."

DR. EDWARD DEANS, at one time City Physician of Chicago, took a dose of morphine with suicidal intent on the 14th inst., and died on the 16th, at the County Hospital. He was seventy-one years old.

THE PRINCE OF WALES is reported to have Bright's disease. We trust he will not make that unpleasant affection the vogue.

A FEW SPORADIC CASES OF YELLOW FEVER have been recently reported at Key West, Fla.

A NEW MEDICAL COLLEGE has been organized at Wichita, Kan., with a corps of eighteen professors. Attendance on three full lecture-courses is required for graduation.

A DEATH FROM THE ADMINISTRATION OF CHLOROFORM is reported in the *Cincinnati Lancet-Clinic* by Dr. William L. Muzzey. The patient was an apparently healthy man, thirty years of age.

CONFERENCE OF INSANE ASYLUM SUPERINTENDENTS AND MANAGERS.—A conference of the superintendents and managers of asylums for the insane in the State of New York was held at Buffalo, October 9th. Dr. John D. Hill, President of the Board of Managers of the Buffalo Asylum, presided, and a permanent organization was effected. It was agreed to hold an annual convention, and that the next one should be at Binghamton, on the third Wednesday in September, 1890. Papers were read by Dr. J. B. Andrews, Superintendent of the Buffalo Asylum, Dr. P. M. Wise, of the Willard Asylum, and others.—*Boston Medical and Surgical Journal.*

A NEW HOSPITAL IN PHILADELPHIA.—Mr. John B. Stetson, of Philadelphia, who has organized much charitable work in that city, is building a hospital in connection with the North Fourth Street Union Mission. The hospital is nearly completed.—*Boston Medical and Surgical Journal.*

AS WE HAVE STATED BEFORE, in the judgment of those most competent and of those who have carefully examined Pasteur's antirabic inoculation methods, they are believed to be measurably successful in practice and to be scientifically legitimate. We regret to observe that our usually acute contemporary the *Medical Standara* has allowed itself editorially to commend the silly assertion of a rabid anti-Pasteurite that Pasteur "has never studied the subject of rabies or hydrophobia, and that he practises a clap-trap method without analogy in theory or practice in the whole round of medical experience, and which results in an absolute increase of deaths from hydrophobia!"

WHOOPING-COUGH.—Bromoform in doses of 5 to 20 drops daily, and phenacetin in 7 to 10 grain doses, are among the new remedies recently recommended for whooping-cough.

MENTHOL IN THE VOMITING OF PREGNANCY.—Dr. S. Gottschalk, of Berlin, reports a case of obstinate vomiting of pregnancy (*Berlin. klin. Woch.*, p. 875) which was promptly controlled by the internal use of menthol. The following formula was used:

℞. Menthol ..... 1
Alcohol. ..... 20
Water. ..... 150
M. Sig.: 3 j. q. 1 h.

# Obituary.

## PHILIPPE RICORD, M.D.,

PARIS, FRANCE.

THIS most famous of French physicians died at Paris, October 23d, in the eighty-ninth year of his age. It is probably not generally known that Ricord was an American by birth and education. He was born in Baltimore, October 10, 1800, and when a mere lad went to Philadelphia for the purpose of studying medicine. In 1820 he went to Paris, where, in March, 1826, he received the degree of M.D., and began to practise at Olivet, near Orléans. Two years later he returned to Paris, where he delivered a course of lectures on surgery, which gave him some renown, and in 1831 he was appointed Surgeon-in-Chief of the Hôpital des Vénériens du Midi. This post he filled most ably for nearly thirty years, retiring in 1860 on account of age. He had, in the meantime, acquired a great reputation as a specialist in venereal diseases. In 1862 he was appointed Physician in Ordinary to Prince Napoleon, and in 1869 became Consulting Surgeon to the Emperor Napoleon III., whom he had previously attended with great devotion during a severe illness. In return for his services the Emperor presented him with a snuff-box and twenty thousand francs. He became a Commander of the Legion of Honor in 1860, and a grand officer in 1871 for services as Chief of the Ambulance Corps during the siege of Paris. He was also the recipient of many foreign decorations. Ricord was not only a brilliant surgeon but a man of great learning and wit.

# Society Reports.

## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Seventeenth Annual Meeting, held at Brooklyn, N. Y., October 22, 23, 24, and 25, 1889.*

FIRST DAY, TUESDAY, OCTOBER 22D—MORNING SESSION.

THE Association was called to order at 10 A.M. by the President, DR. HOSMER A. JOHNSON, of Chicago.

DR. J. H. RAYMOND, Chairman of the Local Committee, made a brief address of welcome, and explained what arrangements had been made for the reception of visiting delegates and for their entertainment in the city.

A long list of members-elect was then read and accepted.

PROFESSOR CHARLES A. LINDSLAY, of Yale College, read a paper by Dr. W. Thornton Parker, of Newport, R. I., entitled

### THE OVERSHADOWING OF OUR HOMES.

Houses overshaded are not healthful, however commodious or well built they may be. Too many trees near sleeping and living rooms are injurious and induce disease. A soil loaded with roots and shaded from the sun is unfit to live upon. Free drainage, abundant sunlight, and pure air in free circulation must be obtained by thinning out shade-trees, which are delusive ornaments and a dangerous menace. The nervous system, as well as general bodily health, suffers from a lack of sunlight. A National Board of Health should have authority to discipline summer resorts and other localities where health-seekers jeopardize their lives through neglect in such matters of hygiene.

In the discussion which followed, opinions quite opposite to those of the writer were expressed. Delegates from Washington and New Haven said that although their streets were thickly shaded, the rate of sickness was no greater than elsewhere. Cutting down trees would do more harm than good.

Dr. James F. Hibberd, of Richmond, Ind., read a paper on

CLOTHING IN ITS RELATION TO HYGIENE.

Considerable has been done to procure sanitary clothing for soldiers, sailors, and other government servants, but ordinary citizens have little regard for the varying requirements of the climate. Many dress too warmly to allow proper functions of the skin. The popular estimate of the hygiene of the skin is below its real importance. Interference with the physiological action of the skin endangers health, and is the primary cause of many constitutional disturbances. There should be established and maintained a power of resisting disease by avoiding overdress, and the consequent too great generation of heat in the skin, and also by periodical exposure of the surface of the body to low temperature. The clothing should be so arranged as to allow free circulation of air and proper ventilation of the exhalations of the skin, without too great loss of caloric in cold weather. Clothing that irritates the skin produces abnormal perspiration, and predisposes to peritonitis, rheumatism, and kindred ills.

Dr. Walker cordially indorsed the views of the paper, and substantiated them by his own experience. When children kick the clothing from their beds, it signifies that too much heat is being generated for their well-being.

The meeting then took a recess to inspect the

SANITARY EXHIBITION,

under the direction of Dr. A. N. Bell, of Brooklyn. There were presented in great abundance various food-preparations, medicines, disinfecting apparatus, specimens of sanitary plumbing, garbage-consumers, ice-machines, etc.

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## Afternoon Session.

Dr. Jerome Walker, of Brooklyn, read a paper on the

CAUSES AND PREVENTION OF INFANT-MORTALITY.

The common belief that infant-mortality in this country has diminished of late years is not sustained by statistics. The death-rate might be reduced under favoring conditions, but these conditions will not be reached while the control of health-boards remains in the hands of mere politicians. A radical change must be made in this respect and in the better education of the masses. A large proportion of deaths in institutions for children is preventable, and the mortality may be lessened by giving the control of all medical and sanitary matters into the hands of reliable and responsible physicians.

Mr. Alfred F. White, C.E., of Brooklyn, then read a paper on the

RELATION OF THE DWELLINGS OF THE POOR TO INFANT-MORTALITY.

Statistics were given showing the need in this country of such institutions as the Peabody Association of London. The evils of crowding families in unhygienic apartments, with every opportunity for the spread of communicable diseases, are responsible to a great extent for the great mortality among infants. Scarcely fifty years ago there was not a tenement-house in New York, but they are now found not only in large cities but in rural towns, and growing up in all directions. They affect not only the health but the minds and morals of their occupants, and are a public danger. In London large sums of money have been expended in heroic measures to grapple with this evil, and the death-rate has been lowered to a point which twenty-five years ago would have seemed impossible. In 1888 the mortality in London was 15.99 per 1,000, while in New York it was 26.18; in Boston, 23.23; in Brooklyn, 22.72; and in Philadelphia, 20.70 per 1,000. These figures show abundant room for advance in obtaining conditions which shall assist to maintain health and prolong life. The study of the problem of housing the poor was begun over fifty years ago in London. The Improved Industrial Dwellings Company was one of the first societies to make a practical test. They invested £1,000,000 in buildings which accommodated 5,300 families, comprising 22,000 individuals. Abundant light and air are supplied to every room, and separate sanitary conveniences to each tenant. Stairways are provided only on the outside of the buildings, and there is no common interior shaft or any communication from floor to floor. Somewhat after the plan of these are the Tower Buildings in Brooklyn. In the city at large the annual deaths of children under five years average between 9 and 10 to 100, while in these buildings only 6 or 7 (according to the agent's figures). In the old-style tenements in New York the Board of Health figures show a corresponding rate of 11.4 per 100. In Brooklyn the records show no instance in which a contagious disease has been communicated to an adjoining apartment, above or below. Cholera infantum may be lessened in these buildings, in so far as the summer heat is alleviated by thorough ventilation from front to rear in every apartment.

DISCUSSION.

Dr. E. H. Bartley, of Brooklyn, spoke on the necessity of milk disinfectants, and attributed much of the disease of children to impurities in the milk.

Dr. Walker referred to a series of experiments made with the milk from cows fed at Prospect Park, on brewers' grain, from distillery slops, and from reliable dealers. Feeding cows on brewers' slops increased the supply of milk, but such milk putrefied quicker, and apparently without going through a stage of fermentation. Milk given by cows fed on pure hay was found to be the best.

Dr. Maxwell, of Florida, inquired why infantile diarrhœa was so rare in the South and so commonly fatal in the North. The death-rate from that cause in San Francisco was five, and in New Orleans seven, in ten thousand; while in Boston it was twenty-five, and in Chicago thirty-five, per ten thousand. Why is cholera infantum as common in some small towns and even in farm-houses in the Middle States, as in large cities?

Dr. McDonald, of Missouri, thought that cholera infantum is nearly always caused by the check to the nervous system in a sudden transition from heat to cold.

Dr. J. P. Thompson, of Kentucky, took an opposite view, and argued that the disease is always produced by indigestible food.

Dr. Staunton, of Ohio, and Dr. Clarke, of Buffalo, spoke of the necessity for disinfecting milk and seeing that the cows are judiciously fed.

Dr. George Homan, Secretary of the State Board of Health, St. Louis, Mo., then read a paper entitled

A SUGGESTED MINIMUM BASIS OF COMPENSATION TO LOCAL HEALTH OFFICERS.

The meeting then adjourned.

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## Evening Session—Public Reception.

Dr. J. H. Raymond, of Brooklyn, presided and opened the meeting with a few words of welcome, congratulating the Association on its large membership—now over six hundred—and its good work in battling with disease. It has succeeded in preventing as well as in quelling epidemics. Its influence and teaching have subjected to scientific control nearly every form of pestilential visitation.

Hon. Alfred C. Chapin, Mayor of Brooklyn, in behalf of the city, welcomed the Association to Brooklyn as one of the most healthful cities of the country. The need of such work as this body performs is felt in healthful as well as diseased communities. As the health

of the city is due in part to the vigor and good constitution of its founders, so the promotion of the

HEALTH OF THE PRESENT GENERATION

will bear fruit in its descendants, and succeeding generations will be thankful for our efforts in securing their health. The medical profession and the State are mutually dependent in advancing the public weal, and should work together to make good laws and induce correct habits among the people.

Dr. Alex. Hutchins, of Brooklyn, then delivered the

ADDRESS OF WELCOME

in behalf of the medical profession. He invited the Association to the hospitals and dispensaries, the medical college and laboratories, the libraries and the homes of the city. He referred to the comprehensive National Sanitary Exhibition of Sanitary Appliances. He reviewed the growth of measures for the prevention of disease and the development of public health legislation.

THE PRESIDENT'S ADDRESS

was then delivered by Professor Hosmer A. Johnson, M.D., of Chicago. He stated that the purpose of the Association was not only to interest and secure the services of physicians, but all other scientific men and the public generally. The necessity for such organizations in behalf of the public health is great, and their importance should be more recognized. A National Department of Health is more needed than the Department of Agriculture, and a Department of Vital Statistics more than a Department of Animal Industry. Within the memory of many in the audience, there was not an efficient board of health in the world. To promote hygienic living and sanitary surroundings, and thus reduce the causes of disease, it is necessary to disseminate scientific knowledge. Plague and pestilence have owed their origin and spread to ignorance and neglect of the laws of health. Comparisons show what science has done for public health in recent years. Legislative enactments and police regulations are required for protection, and have been stimulated by bitter experience with epidemics, and often framed in times of danger. They are thus too often provisional and insufficient. They should be made in times of safety. There should be a removal or destruction of the evil agencies which threaten society. It is the province of this Association to inform the public in regard to proper sanitary precautions. A health officer is as much needed in every community as a justice of the peace or a constable. The collection of vital statistics is also important, and every town and village should have proper registration of all births, deaths, and cases of communicable disease. There should also be a national Board of Health, with the power and means for attaining its much needed ends.

The matter of proper quarantine should also receive more public attention and more complete legislation with regard to zymotic diseases. Typhoid fever was formerly regarded as a "visitation of Providence." The time is coming when such disease will be considered as due to crime.

A death from typhoid fever now means not so much a dispensation of Providence as it means foul water, foul food, or foul air. A city is decimated by a pestilence, and it is found that its foundations are honeycombed with cesspools, and its drinking-water is diluted sewage. The judgments of God, in the light of these revelations, become no more mysterious than the pains of the child that thrusts its finger into the flame only to feel the terrible infliction that follows. There has come to be an enthusiasm in the medical profession on this subject, which has made itself felt in various ways. This zeal has communicated itself to the public. An intelligent foundation has been laid for sanitary reforms.

The average length of life now is forty years, but an intelligent regard for the laws of health in the community ought to add another forty years. There are more deaths annually from preventable diseases than from any one visitation of cholera or any other dreaded epidemic.

The death-rate of twenty-six of the principal cities of America, with a population of 9,873,448, is 20 per 1,000. It is morally certain that this rate could be reduced by means and methods now known to sanitary science to 16 per 1,000, and probably still less than that. The death-rate for London for the year 1888 was 18.5 per 1,000. This can be still further reduced. That of New York and Brooklyn for the same year, taken together, is 25.5 per 1,000—New York, 25.9; Brooklyn, 23.7. The death-rate of these two cities, if reduced to that of London, would secure a saving of 7 per 1,000, or annually 15,986 lives. These lives are public wealth. But this is not all. For one death annually two persons are sick during the entire year, or, in other words, there are two years of disabling sickness to one death; 31,972 years in New York and Brooklyn of sickness—preventable sickness—annually. The value of these years of sickness cannot be reached with accuracy, but the wages lost on account of sickness, the cost of care and maintenance during sickness and convalescence, and the money value of the lives destroyed, considering them only as machines, will, in New York and Brooklyn, reach annually into the millions.

Rev. Dr. Richard S. Storrs, President of the Long Island Historical Society, next made a brief address. He alluded to the relations of amity and helpfulness which should exist between the clergyman and physician. *Health* and *holiness* are derived from the same root, which signifies wholeness. There is no conflict between science and religion. One throws light on the origin, the other on the destination of man.

Hon. Seth Low, the president-elect of Columbia College, expressed sympathy with the work of the Association. Brooklyn is approaching a new problem in sanitary matters. Built at first on high land sloping to the bay, the city easily secured good drainage. Now the growth of the city eastward occupies land sloping but slightly toward the sea; and the drainage, instead of pouring into a swiftly flowing tide, finds its way to landlocked basins. The question of proper sewerage and the disposition of sewage forms one of the most important problems before this Association. A visit to the sewage-farm in Paris was very instructive, as showing this waste material converted into a useful product.

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Second Day, Wednesday, October 23d — Morning Session.

Dr. John S. Billings, of the U. S. Army, Washington, D. C., read a paper entitled

THE UNITED STATES CENSUS IN ITS RELATION TO SANITATION.

He emphasized the importance of the collection of vital statistics. Many do not regard this as so important as other work in behalf of public health. In order to convince the press and the community that the work of a Board of Health is necessary, you must produce constant, undeniable evidence; and this evidence must be mainly death-rates, to which should be added all the sickness-rates obtainable. To do this there must be a complete registration of deaths and births, and an enumeration of the whole population. Before this Association meets again the Eleventh United States Census will have been taken, and its methods and results are of great interest to all sanitarians. One of the most important questions to be settled before the census is taken is what shall be the boundaries of the special districts of the city for which a separate statement of the population is desired. In some cities the wards form fairly satisfactory districts for the purpose, and where this is the case it makes the problem very easy. But in many cities these divisions bear no proper relation to different sanitary conditions. Therefore in about a dozen of our large cities it is proposed to make a systematic division of the area into sanitary districts having special relations to altitude, character of habitations, or of population, etc., and to have special death-rates calculated for each of these districts. This is

being done in conference with the health authorities of these cities, and it is hoped that in this way some very interesting data will be obtained which will serve as a foundation for sanitary work in the future.

To make the statistics as correct and useful as possible, all deaths occurring in hospitals should be charged to the ward or district of the city from which the patient was taken to hospital, when this can be ascertained. Otherwise the death-rate in the ward in which the hospital is located will be too high and in the other districts it will be too low. The birthplace of the parents of the decedent should be also reported. Moreover, it is very desirable that in all cases of deaths of colored persons it should be stated whether the decedent was black or of mixed blood, such as mulatto or quadroon. One of the most important questions in the vital and social statistics of this country relates to the fertility, longevity, and liability to certain diseases of those partly of negro and partly of white blood, and the only way to obtain data on this subject is through the registration of vital statistics. For all cities of ten thousand inhabitants and upward it is proposed to collect as complete information as possible with regard to altitude, climate, water-supply, density of population, sewerage, proportion of sewered and non-sewered areas, and other points bearing on the healthfulness of the place which will permit of interesting comparisons with the death-rates. The cordial co-operation of all physicians and sanitarians is solicited in making the data of these reports accurate and complete. It is desired to make these vital statistics an unanswerable argument in favor of systematic public sanitary work and of the granting of State and municipal funds necessary for maintaining such work.

Dr. J. N. McCormack, of Kentucky, offered a resolution recommending that the sanitary authorities of Mexico and Cuba be invited to send representatives to the future meetings of the Association. This was referred to the Executive Committee under the rules.

Professor Lindsay then read the paper prepared by Dr. Ezra M. Hunt, Secretary of the State Board of Health, Trenton, N. J., entitled

THE PREVENTION OF PHTHISIS PULMONALIS AND METHODS FOR ITS LIMITATION.

The paper criticised the writings of those who regard the infection of phthisis pulmonalis as exclusively due to inhalation of the dried sputa of this disease. The theory was advocated that the breath of a consumptive patient is capable of carrying the contagion.

Discussion of the paper was postponed, and after a brief intermission, for business notices, Dr. W. M. Smith, Quarantine Officer of the Port of New York, read a paper, illustrated by stereopticon views, on

IMPROVEMENTS AT THE NEW YORK QUARANTINE STATION.

He began with the history of the earliest establishment of a quarantine station in New York, and went on to describe how the present grounds were taken up for that purpose. Illustrations of the ground plans of the buildings were thrown on the screen, and the speaker explained how the drainage and sewerage of the island were constructed; how patients suffering with contagious diseases were enabled to enjoy an outing without coming in contact with any of the other patients. Then the methods of disinfecting were explained, and views of the various chambers used for the purpose were shown.

The Association then adjourned and proceeded to take an excursion to the Quarantine and East River hospitals, accompanied by Dr. Smith.

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Evening Session.

Dr George M. Sternberg, U. S. Army, of Baltimore, Md., gave an account of

RECENT RESEARCHES RELATING TO THE ETIOLOGY OF YELLOW FEVER.

The investigations were made in Havana, between the middle of March and the first of September, 1889. Ample material has been obtained for a thorough research by modern culture methods. Thirty autopsies have been made in typical cases of yellow fever. The cultures obtained require further study and extended comparative research before any definite conclusion can be reached as to the specific etiological relation of one or other of the micro-organisms found in yellow-fever cadavers, principally in the intestine. One method followed in the entire series of cases was the preservation of a piece of liver or kidney in an antiseptic wrapping, by which the exterior was sterilized and the entrance of germs from without prevented. Such a piece, after forty-eight hours in the laboratory, appeared fresh and had no odor, but when cut, was found to contain various micro-organisms. The cut surface had an acid reaction. The bacilli were of various species, and corresponding with those found in the contents of the intestine. No satisfactory evidence has been obtained, up to the present time, that any one of these is the veritable yellow-fever germ. One of the most constantly found of these micro-organisms was a large, motionless, anaerobic bacillus, resembling that of malignant œdema. This, and others found in a less number of cases, were present in small numbers at death, and in a large proportion of cases the result of an examination made immediately from fresh liver-tissue was negative. Material from a piece of liver, kept as above, and containing micro-organisms, is very pathogenic for guinea-pigs when injected subcutaneously in small quantities, while the fresh tissue may be injected in considerable amount without noticeable effect. The micrococcus of Freire has not been found in any cultures of this series, and the bacilli of Finlay and Gibier have not generally been found in the tissues of yellow-fever cadavers.

Dr. Theobald Smith, of Washington, read some

PRELIMINARY OBSERVATIONS ON THE MICRO-ORGANISM OF TEXAS FEVER.

Cultures have been made from the spleens of animals who died of Texas fever, and a variety of bacteria found. A variety of experiments led to the discovery of an organism within the red blood-corpuscles. The intra-globular bodies found are round or oval and nearly colorless. There is usually one, but two or more may be found in one corpuscle. Stereopticon views of the organisms found were shown upon the screen.

This was followed by a paper by D. E. Salmon, D.V.M., Chief of the Bureau of Animal Industry, Washington, entitled

SOME GENERAL OBSERVATIONS ON TEXAS FEVER.

The resemblance in the characteristics of yellow fever in man and Texas fever in cattle was noticed. Each disease has a permanently infected and well-known district which is its home. The contagion of both diseases is carried not by the sick, but by the healthy. Natives in the infected districts have a certain immunity from disease, while non-residents entering the locality will contract the fever. Both diseases, when carried north of their home, require a period of warm weather for development. Neither contagion survives a winter of snow and frost beyond its home. Both diseases are accompanied by an inflammation of the liver which causes yellow discoloration of the tissues, and in both hæmaturia is seen. These points of similarity may indicate that the germs have a similar nature, but the facts are given as a coincidence.

Edward Atkinson, LL.D., of Boston, Mass., read a paper on

THE ART OF COOKING.

A form of oven heated by an oil lamp, with great saving of heat and fuel, was shown, and food prepared before the audience.

The meeting then adjourned.

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Chloralanide is the name of the latest new hypnotic. It is a combination of chloral and formamide, and is given in doses of 15 to 60 grains.

## AMERICAN DERMATOLOGICAL ASSOCIATION.

*Thirteenth Annual Meeting, held at Boston, Mass., September 17, 18, and 19, 1889.*

FIRST DAY, TUESDAY, SEPTEMBER 17TH — MORNING SESSION.

THE President, DR. J. E. GRAHAM, of Toronto, Canada, called the meeting to order at 10 A.M., and after a short executive meeting, in which reports were read and committees appointed, Dr. Graham, as presiding officer, made

### THE OPENING ADDRESS.

He referred to Boston as a city which had always been a centre of activity in dermatological matters. The Harvard had been among the first schools to establish a chair of dermatology. The earliest works on the subject were published here. "Brief Notes on Small-pox and Measles" was the title of a book published here as early as 1677. The hope was expressed that the present gathering, in this birthplace of American dermatology, would be a profitable and pleasant one. The importance of greater attention being paid to sanitary matters was dwelt upon, and the possibility of preventing the spread of many infectious and contagious diseases by the enactment of sanitary laws. In two diseases, not themselves dangerous, but extremely disagreeable, viz., scabies and tinea tonsurans, much could be done in the matter of eradication and prevention by appropriate measures. Reference was made to Dr. White's recent paper, in which an increase of scabies in Boston was noted, and the inspection of children in public institutions advocated by it was indorsed. Tinea tonsurans, when once firmly implanted in an asylum or school, is with the utmost difficulty eradicated. He referred to a provincial town in Canada in which inspection had resulted very favorably. The subjects of syphilis and leprosy, as great menaces to the public weal, were then taken up. The evil resulting from the first was very wide-spread, while the attempts to eradicate it, or check its progress, were few, spasmodic, or of local character. In other countries, where laws had been enacted relating to syphilis, the results had not been very encouraging. Denmark and France were especially spoken of, where imperfect registration defeated the objects of the enactments. One fault in this country lies in the imperfect knowledge of the disease acquired in our medical schools. Students are too apt to think, if they intend practising in the country, that they will not be called upon to treat the disease. This is a great mistake; unfortunately, it is to be found in all sections, and affecting all classes. Absolutely free treatment in all hospitals and public institutions was advocated. Separate wards and hospitals should be set apart where these patients could be treated with consideration, and inducements should be held out to them to enter. Great danger threatened the community at large, and public moneys should be freely spent for this object. Examination of wet-nurses was important, as they were very frequently found affected. Periodical examination of soldiers and sailors should also be made. Care in vaccination, circumcision, and proper instruction of youth were prophylactic means not to be neglected.

The spread of leprosy has recently excited much attention. Dr. Morrow's paper has caused discussion of the subject. Leprosy is contagious, in the wide acceptation of the term. Each leper, by direct or indirect transmission, is a focus of danger. Inoculation has become a well-established fact. The germs may be introduced by food, or possibly by inhalation. Instances of this are not proven, but we are not in a position to deny its weight. Hereditary transmission is not now so much thought of as hereditary predisposition. There has been no decided increase here, till of late years. Development of the germs seems to depend on the condition of the individual with whom they come in contact. Immunity here depends on manner of living rather than on any peculiar idiosyncrasy. The slow spread here is explained by the fact that those attacked are of other than Anglo-Saxon race. It is possible that an Anglo-Saxon leper, living among Anglo-Saxons, would prove a source of infection. If once started it will be impossible to control it. The facts favorable to its extension here are, that it exists in every quarter; we have it on every side. There is no danger of a rapid spread, but of an insidious progress until it becomes formidable. The Government should take measures at once to prevent its spread. The speaker advocated sending back cases to their own country; keeping suspected cases under surveillance; and segregation. It is difficult to secure separation, as the individual is unwilling to enter a settlement. Asylums should be made desirable places of residence. Dr. White advocated, in 1874, at the first meeting of this Association, a consideration of questions of national importance. Up to that time there had appeared no cause of alarm in regard to leprosy, but at that time he thought it by no means improbable that a foothold might be obtained. Certainly in many States and cities too little attention has been paid to such sanitary considerations. The rule to hold the meetings of this Association in large centres of population, where rare skin diseases could be presented, should be carried out.

The first paper read after the President had declared the Association open for business was one by DR. F. B. GREENOUGH, of Boston, on

### HERPES ZOSTER,

based upon personal observations extending over sixteen years, in which time two hundred and fifty-five cases of the disease had been treated out of a total of seventeen thousand seven hundred and forty-one cases of skin disease. The average age had fallen between ten and fifteen years, and the largest number of cases in any cycle of five years of life were found between these years, the number being fifty-nine. The youngest patient was three months of age, and the oldest was aged eighty-eight. The neurotic origin of herpes zoster has been pretty generally conceded, but as it is observed with somewhat greater frequency in the spring-time, we must assume that certain unknown factors influence the eruption. The situation of the lesions, as recorded, shows that the costal region is affected in about fifty per cent. of the cases, the facial and cervical in about eight per cent., and the abdominal in about six per cent. The older the patient the more likely was it that pain would be a prominent symptom. In nineteen cases the pain was very severe, and the average age of these patients was forty-four years. In several instances the vesicles appeared to pass beyond the median line on the back, but in each instance careful examination showed that there was a slight curve of the spine to account for the appearances. One patient had a double zoster of the nose. Two cases showed lesions upon the fingers at the terminal ends of the brachial nerve. The reader had observed a herpes progenitalis extending upon the shaft of the penis which closely resembled a zoster.

As to treatment, the abortive method is not favorably looked upon. It is advised to leave the vesicles alone as much as possible, and to prevent their rupture. Diachylon plaster, permanently applied to the affected region, has seemed to do as much good as anything. No benefit was derived from internal antirheumatic remedies.

DR. FOX, of New York, said that upon close questioning violence will often be found to have preceded the outbreak. Internal remedies, in his experience, were without effect, and most of the methods of treatment in vogue were extremely unsatisfactory. He had given up collodion applications. Much benefit could result from galvanism.

DR. ROBINSON, of New York, could not regard the disease as a neurosis, but looked upon it as an infectious process.

DR. ZEISLER, of Chicago, spoke of the occurrence of zoster soon after the internal use of arsenic. In one case

recently observed it appeared after Fowler's solution had been increased up to thirty-drop doses.

Dr. Bronson, of New York, said there was an unsolved mystery about zoster. It does not depend upon time, locality, or age. Its occurrence but once in a lifetime supports the theory of infection. He has secured good results from the application of gutta-percha dissolved in chloroform.

Dr. Sherwell, of Brooklyn, spoke of three cases he had observed in which a zona ophthalmica was attended with an eruption upon the ala nasi of the same side. He employed occlusive dressings, galvanism, and had also given internal remedies with seeming good effect.

Dr. Hardaway, of St. Louis, spoke of the possibility of chronic zoster, and related a case of herpes upon both sides of the neck which had persisted for months, and showed the usual signs of zoster. Ten or twelve cells of an ordinary galvanic battery usually gives relief from the pain, but in some cases, at least, there is present an element of imagination. Protective dressings and collodion are much superior to any form of ointment.

Dr. Bulkley, of New York, said the proportion of cases in New York was similar to that given by the reader of the paper. He has seen a zoster in a patient upon whose body were the signs of a previous attack. He would regard it as the result of a simple neuritis, due at times to cold and at times to injury, and had often seen it develop in patients under arsenical treatment. Great relief of pain is secured by the galvanic treatment, and at times it appears to have an abortive effect. He prefers a tight-fitting bandage, under which the skin and lesions are thickly dusted with starch powder, to any other dressing.

Dr. Howe, of Boston, said the collodia dressings had given him little satisfaction, excepting in the erythematous form. Galvanism has, on the other hand, given great relief. As a dressing he applied thin strips of cork above and below the eruption, and maintained them in place by adhesive strips. The lesions themselves are best dusted with some bland powder.

Dr. Klotz, of New York, referred to the paper on this subject read by Kaposi at the Prague Congress, in which epidemics of the disease were reported. He maintained that the affection in which recurrence took place differed from the ordinary zoster. He himself could not accept the infectious theory. He had seen double zoster of the face. Two personal cases were related in which deep scars were left. Both patients were syphilitics, and the speaker thought this often the cause of scars.

Dr. Morrow, of New York, had seen the eruption follow a blow after a short interval. He had also observed the lesions of zoster extending down over the toes. In one case the pain was localized in the knee. Many things point to its infectious nature, and the fact that it occurs after injury does not disprove the theory. A hot-water bag to the spine often gives relief from the pain.

Dr. Robinson said a zoster-like eruption could follow an injury, but this did not prevent a subsequent true zoster from appearing, and making it seem like a recurrence.

Dr. Graham, of Toronto, Canada, spoke of a fatal case in a boy under his care. Febrile symptoms and pain preceded the eruption by three days. On the fourth there was severe pain on the opposite side of the face, and on the fifth the patient died. Autopsy showed intense inflammation of the Gasserian ganglia on both sides. A bacillus of unknown name and nature which was found in the ganglia was demonstrated before the Association.

Dr. Greenough, in closing, said that in one case he had mentioned the lesions were limited to the finger and thumb.

Dr. Heitzmann, of New York, then read a paper on

### MICROSCOPICAL STUDIES OF MALIGNANT TUMORS OF THE SKIN.

The basis-substance of the fibrous connective tissue of the derma is living, and capable of proliferation. In dermatitis we observe in the earliest stages an augmentation of the living matter leading to the appearance of inflammatory corpuscles. A breaking asunder of the inflammatory corpuscles leads to the formation of pus-corpuscles. In the production of tumors the tissue of the derma invariably falls back into its protoplasmic condition, with new-formation of medullary or indifferent corpuscles from which a tissue originates. The newly formed tissue may remain in an embryonal or medullary condition, as in sarcoma. He had seen all varieties of sarcoma in the skin, but thought it necessary to make but two varieties: *Globo-myeloma*, identical with Virchow's "round-celled sarcoma," and *spindle-myeloma*, or spindle-celled sarcoma. Sarcoma of the skin does not often ulcerate; the tissues over them become thinner and thinner, and finally break through, and a superficial ulceration may take place. The new-formation of myeloma-corpuscles takes place from the protoplasm between the bundles of connective tissue and also from the basis-substance of the bundles themselves. All epithelial structures will sooner or later disappear when myeloma comes in the skin. When the growth proceeds very rapidly they will be transformed into myeloma-corpuscles. Two views are held regarding cancer: 1. That it invariably starts from epithelia. 2. That the connective tissue may furnish material for it. Primary cancer, according to the reader, may appear in places where there is no trace of epithelial formation. Small glistening bodies or corpuscles in groups were shown under the microscope, which the author regarded as the pre-stage of cancer and an almost sure indication of the extension of the process if found beyond the tumor; or, if found after operation, recurrence could be predicted.

Dr. Robinson agreed with the views respecting the structure of the derma. He made a broad distinction, however, between tumors proper and sarcomata, which he regarded as an infective process. At the point of development there is, of course, a dermatitis and connective-tissue new-growth. He did not think epitheliomata could exist without previous epithelial tissue, and he cannot now admit that that connective tissue returns to embryonal tissue and then becomes epitheliomatous. For example, he had never seen epithelioma primarily develop in a lymphatic gland.

Dr. Heitzmann said he could admit that when it starts, in the early stage, we could not tell sarcoma from inflammation, but the former goes on to the formation of tumor while the latter stops. His view—that epithelioma could develop from other than epithelial tissue—was not yet accepted in this country, but he thought it would be.

Dr. Morrow, of New York, read a paper entitled

### THE DIAGNOSIS OF LEPROSY.

The growing interest in this country in the subject of leprosy; the sad fate of Father Damien, which had directed the attention of the whole world to the disease; and the lack of sufficient clinical descriptions in the majority of text-books, had led the reader to consider some points in the differential diagnosis. Most authors of text-books have not been sufficiently familiar with the characteristic and pathognomonic features of the disease from their own clinical observations. During the reader's sojourn in the Sandwich Islands he had had an excellent opportunity to study the diagnosis in many cases, not only of those well known to be lepers, but also in suspected cases under government supervision. In the tubercular form the prodromal signs possess but little value, and show nothing characteristic. They are, however, of value in a retrospective sense. In the macular form the lesions are not pathognomonic, and are liable to be mistaken for syphilis, erythema multiforme, etc. Tubercular lepra and syphilis also bear the closest resemblance to each other. Nodules grouped upon an infiltrated base may also be mistaken for lupus. The bacillus occurring in leprous tissue, and nowhere else, is of the utmost importance in diagnosis. Hyperæsthesia is first present in the rosy patch

of the early macular form, but as the patch clears up in the middle, anæsthesia takes its place. Pigmentation may be present from the first, causing a marked resemblance to chromophytosis, but there is no scaliness. In lepra the depigmented spots are more grayish than in leucoderma. Pemphigoid blebs are sparser and more superficially situated than in ordinary pemphigus. The plantar ulcer, frequent in the tropics, bears a close resemblance to *mal perforans*. Many neurotic diseases are simulated: Progressive muscular atrophy, chronic arthritis deformans, etc. Unilateral development of lepra is not uncommon. In the Sandwich Islands one-third of the cases were anæsthetic, and two-thirds of the mixed type. Many photographic illustrations were shown.

DR. BULKLEY asked if other lesions were present in the case resembling perforating ulcer of the foot.

DR. MORROW said no, but that the patient had since then shown other well-marked signs, and was now at the leper settlement at Molokai.

DR. GRAHAM spoke of a case of perforating ulcer seen at Tracadie, in a leprous woman seventy-one years of age, who had never been in the habit of going barefoot.

DR. JACKSON, of New York, then presented

A CONTRIBUTION TO DERMATOLOGICAL BIBLIOGRAPHY,

consisting of a catalogue comprising over three thousand titles to works on skin diseases, and more than twelve hundred on syphilitic subjects, which will be published in pamphlet form.

THE OCCURRENCE OF PRURIGO IN AMERICA

was the next paper, read by DR. ZEISLER, of Chicago, who showed that while the existence of the disease in this country had been often and in many quarters denied, it still existed in some localities here to almost as great an extent as in Vienna. Twelve cases have been seen by the reader during the past year out of a total of one thousand three hundred and seventy cases of skin disease. He accounts for the fewer cases generally seen in this country by the fact of improved facilities for bathing and better sanitary surroundings, to say nothing of difference in climate.

Dr. Taylor had seen two typical cases here. The testimony of almost all members who spoke went to show that prurigo is not often seen in this country, although, with scarcely an exception, the gentlemen had observed and studied the disease in Vienna, and were familiar with it.

A PRURIGO PATIENT

was presented by Dr. Tilden for DR. WIGGLESWORTH, of Boston. A boy born near Boston, about fifteen years of age, had been under his care for some time. Upon examination, Dr. Zeisler and several others pronounced it a typical case of the disease.

DR. FOX thought the only essential difference between such a case and one of eczema was the question of duration.

DR. ALLEN spoke of a case quite similar to the one presented, now under treatment, which he had regarded as a true prurigo.

DR. BULKLEY thought many such cases had been classed as eczema in this country.

DR. ZEISLER made the point that in papular eczema the face, hands, and scalp were always affected, while in prurigo they are free. Mild cases do get well, even in Vienna, and especially since the beta-naphthol treatment has been employed.

DR. SHEPPERD, of Montreal, read a paper entitled

TWO CASES OF ECZEMA MERCURIALE,

describing an eczema as the result of the application of mistura ammoniaci cum hydrargyra, or, as it is known in Canada, "Scott's Dressing." It had been used as a local dressing, spread on sheepskin, in treating synovitis. An erythematous eczema, at first local, soon spread to the face and genitals, and resembled rhus-poisoning.

DR. MORROW said it is not unusual to see drug-eruptions persist long after the drug is removed.

DR. GRAHAM had seen the same results from bichloride dressings.

DR. KLOTZ read a paper entitled

CLINICAL OBSERVATIONS ON INJECTIONS OF INSOLUBLE MERCURIAL SALTS IN SYPHILIS.

The reader was aware that in this country the treatment was considered one for emergency, and was not looked upon favorably as a method for general use. Little objection had been found on the part of any of the patients, and many were much pleased with it.

Two hundred and ten intramuscular injections had been made upon twenty-three different patients. Calomel, the yellow oxide, and the salicylate of mercury were all tried, but the yellow oxide was most used, in the strength of 1 to 30 suspended in water, olive-oil, or vaseline. An average of ten injections was made for each patient. Two abscesses were produced, both following an injection of calomel suspended in water. None followed when it was suspended in oil. Affections of the skin were almost always favorably impressed by the injections, and the results in general were so encouraging that the reader does not feel inclined to give up the method.

DR. TAYLOR thought it would not often be necessary to resort to intramuscular injection; still, the method might be good for certain emergency cases. There are too many dangers to permit of a permanent adoption of the method.

DR. MORROW regarded it as a reserve treatment where others are contraindicated.

DR. ZEISLER did not think the method applicable to cases in general, or practicable.

DR. SHERWELL thought the dosage inexact.

DR. BRONSON thought it a scientific means of treatment the application of which we had not yet fully mastered.

DR. HEITZMANN had obtained painful nodules when the greatest antiseptic precautions were employed.

DR. KLOTZ said abscesses were more frequent in beginning the injections, but as experience is acquired the danger grows less. The good qualities of the method far outweigh the bad ones.

(To be continued.)

## MISSISSIPPI VALLEY MEDICAL ASSOCIATION.

*Fifteenth Annual Session, held at Evansville, Ind., September* 10, 11, *and* 12, 1889.

DR. GEORGE F. COOK, OF INDIANAPOLIS, PRESIDENT, IN THE CHAIR.

THE Secretary, Dr. R. L. Thompson, of St. Louis, and the Chairman of the Committee of Arrangements, Dr. A. M. Owen, of Evansville, were everywhere. The attendance was good, for this "side-tracked village in the pocket of Indiana."

The President, owing to the immense programme of about one hundred papers, begged to be excused from a formal address, and made only a few opening remarks.

The Committee on Nominations, by their Chairman, Dr. I. N. Love, of St. Louis, Mo., reported as follows: *President*—Dr. Joseph M. Matthews, of Louisville; *First Vice-President*—Dr. C. R. Earley, of Pennsylvania; *Second Vice-President*—Dr. T. B. Harvey, of Indianapolis; *Permanent Secretary*—Dr. E. S. McKee, of Cincinnati.

Invitations for holding the next annual meeting were received from Excelsior Springs, Mo., Chattanooga, Tenn., Cincinnati, O., and Louisville, Ky. Louisville was chosen, and September 9, 10, and 11, 1890, appointed for the meeting.

The newly elected President was escorted to the chair, and made some appropriate remarks.

ANTIPYRETICS, ANALGESICS, AND HYPNOTICS,

was the title of a paper by DR. I. N. LOVE, of St. Louis. He discussed quinine, opium, antipyrine, acetanelid, bro-

mides, urethran, and exalgine. We should guard carefully against the possibility of self-drugging, and with this end in view he thinks it the physician's duty to dispense himself all analgesics and sedatives. He can thus limit the amount taken and, if desirable, keep from the patient a knowledge of the dosage. All the derivatives of the aromatic series, being antiseptic, antipyretic, and analgesic, are of great value to us in our battles with disease. Acetanelid, in his experience, stands at the head of the list, and exalgine has been so satisfactory as to justify a more extended use.

DR. S. BISHOP, of Chicago, read a paper entitled

THE ABORTION OF ACUTE NASAL CATARRH.

If the case was a severe one he administered half a grain of morphia and one one-hundredth grain of atropia, lessening the dose if the attack was a light one.

"A Simple Method of Treating Fistula in Ano" was the subject of a paper by Dr. Joseph M. Matthews, of Louisville. This paper created an interesting discussion, which was taken part in by J. M. Murdock, of Pittsburg, H. H. Grant, of Louisville, Archibald Dixon, of Henderson, and W. H. Wathen, of Louisville.

"The Myopic Eye" was the brief title of a pointed paper by Dr. Dudley S. Reynolds, of Louisville. The doctor related a series of interesting cases. He indicated the three principal agents for the arrest of the progressive myopia: Eserine, pilocarpine, and iridectomy. That the myopic eye is always an unsound eye should be constantly borne in mind. That the myopic state of refraction is always the result of abuse should be universally known, for it concerns the whole human family.

"The Treatment of Strangulated Hernia" was the title of a paper by Dr. W. H. Meyers, of Fort Wayne, Ind. He advised to shun opium, and scolded at delay. If the patient is seen within a few hours of the accident, we may employ taxis with no other interference for six or eight hours as the extreme limit. Otherwise this treatment should be limited to minutes, and the operation performed.

"The Accoucheur and his Forceps" was the subject of an essay by Dr. A. S. Bemes, of St. Louis.

DR. J. A. LARABEE, of Louisville, read a paper entitled

INFANTILE THERAPEUTICS.

He thought the old therapeutic furniture fitted remarkably well the new house with its microbian windows. He thought infantile therapeutics should include an infinite knowledge of hygiene and of hydrotherapy. Water is entirely too common to command respect. If it could be sold in small quantities at fabulous prices it would be better thought of. He often found it necessary to use a slight amount of deception to induce the use of water. He discussed endermatic, hypodermatic, and epidermatic medication, also the treatment of diphtheria.

DR. H. C. DALTON, of St. Louis, Superintendent of the City Hospital, read an interesting paper entitled

IS SENN'S GAS-TEST INFALLIBLE AND ALWAYS DEVOID OF DANGER?

He reported a case of gunshot wound of the abdomen, the ball passing into the thorax in the left axillary line, between the seventh and eighth ribs. There were no symptoms of abdominal injury, but, from the direction of the ball, he suspected that the abdominal cavity had been penetrated. He resected three inches of the seventh rib and found a hole through the diaphragm, three inches from the thoracic wall. He introduced a glass tube and applied the gas-test, but received negative results. Laparotomy was not performed. The patient came near dying from interference with respiration due to the enormously gaseous-distended intestines pressing upon the diaphragm. At the autopsy, eighteen hours after death, two holes were found in the greater curvature of the stomach four inches below the cardia, the hole of exit being a half-inch below hole of entrance. The lower third of the stomach was filled with semisolid food which had securely plugged up the bullet-holes during the administration of the gas and prevented its escape into the peritoneal cavity, thus accounting for the failure of the test.

He concluded, if semisolid food would cause the test to fail, semisolid fæces would do the same thing. and hence the claim that the test is infallible is untenable.

He also reported a case in which the test gave affirmative results, the gas escaping and igniting freely. Laparotomy was performed, and twelve holes were closed by the Lembert suture, two in the cæcum, six in the small intestines, three in the mesentery, and one in the hole of entrance. Owing to the gaseous extension, difficulty was experienced in returning the intestines to the cavity and closing the wound. In the attempt, the firm pressure used caused the holes to burst in several places, flooding the peritoneum and obliging the peritoneal toilet to be done *de novo*. He thinks this, together with the excessive gaseous pressure upon the diaphragm after the closure of the abdomen, adds to the shock, and hence he argues that the method is not devoid of danger. The patient died eighteen hours after the operation.

DR. ALEXANDER B. SHAW, of St. Louis, read a paper entitled

RESULTS OF SUSPENSION IN THE TREATMENT OF AFFECTIONS OF THE SPINAL CORD BY THE SHAW APPARATUS AND TECHNIQUE.

He began a series of experiments, June 16, 1889, with the apparatus devised by himself, for suspension in affections of the spinal cord. After personally suspending a number of patients every two or three days for several weeks, he turned the cases over to two assistants, who continued the treatment after the technique of Dr. Shaw. A report from them at the end of a little more than two months, refers especially to three cases, though in all ten have been receiving the treatment. Two of these patients were affected with tabes dorsalis; the other, with cerebro-spinal sclerosis.

CASE I.—German watchmaker, aged thirty-two, previous health fairly good; dates present illness from a burn received over left half of body, which confined him three months to his bed. After this he noticed difficulty in walking, until when he came under the treatment he was unable to walk without assistance. He appeared far advanced in the second stage of the disease. The greatest change is in his locomotion; he is now able to walk all about the institution, climb stairs, and a decided mental change is apparent. There seems an extension of at least five inches in the length of the neck in the suspension of this patient. There is some atrophy of the posterior cervical muscles. The backward bending of the knees, particularly marked in the beginning of treatment, is much lessened.

CASE II.—German tailor, aged sixty-six. No history of this patient, excepting some rheumatic ailment several years ago. He was able to walk with the use of a cane when he first came under notice, but was in frequent danger of falling. He was troubled by "girdle pains," which have lessened since suspension. On account of his weight he can stand treatment but a short time without great fatigue. From a state of almost utter helplessness he has so improved that he was able to walk into the city (six miles), remain several days, and walk back again. During an attack of acute diarrhœa he was unconscious for several days. After consciousness was restored there was such marked hyperæsthesia that scarcely the slightest touch could be borne on any part of the body. He says his eyesight has been improved; rheumatic pains less, and defecation and urination now normal.

CASE III.—Cerebro-spinal sclerosis. Englishman, aged forty seven, first noticed ailment in 1880; been under almost constant treatment from different physicians since. When suspension was begun, patient had difficult urination. There was a decided tremor when any co-ordinate movement was attempted, and placing fluids to his mouth was often impossible. Speech was defective; power of locomotion somewhat impaired, *i.e.*, ataxic. Decided im-

provement has been experienced in several respects; urination is now normal as to frequency, and he is not disturbed by tenesmus or burning sensations. When first received there was transverse and vertical nystagmus; now he says he can see farther, and there is not so much oscillation. He is able to articulate more distinctly, and can hold a vessel filled with water quite steadily.

Dr. E. S. McKee, of Cincinnati, read a paper entitled

STERILITY IN WOMAN; ITS ETIOLOGY AND TREATMENT.

The author found the subject a difficult one. He thought the most common cause of sterility was intra-uterine disease, and chronic endometritis its general manifestation. Inflammations of the pelvic peritoneum and of the parametria or their consequences are a frequent origin. Three things must be determined: Are spermatozoa in the semen? Do they get into the utero-cervical canal? Do the vaginal secretions poison the spermatozoa? Sterility in man must be eliminated before seeking the causes of childless marriages in the wife. Gross claims that one out of six sterile marriages is the fault of the husband, and Kehrer claims one-third, and the cause of the barrenness as gonorrhœa. The habits of the wealthy diminish fertility, while those of the poorer classes seem to favor it. The injurious effect of excessive fat in women, as regards childbearing, is generally admitted. The prospects of offspring will depend more on the menses than the flesh, amenorrhœic fat women being usually sterile. The prevalence of spasmodic dysmenorrhœa among sterile women, about two out of five cases, leads to a belief that this condition has some influence upon sterility. Gonorrhœa is an important factor. The reflux of semen is not so important a cause as supposed; the mucous discharge of the glands of Cowper and Duvernay are often mistaken for semen. A Chicago professor has found in that city that the hair on the mons veneris of sterile women is straight. He does not advise curling the hair as a cure for sterility, however. Sexual incompatibility is well known to exist. Sterility may be occasioned, when necessary, by obliterating the ends of the Fallopian tubes with the thermo-cautery. Some authors claim that consanguineous marriages are sterile. Darwin finds these slightly more fertile than non-consanguineous. He thinks this a fact because such marriages take place where there are large groups of cousins, and fertility becomes hereditary.

The cure of sterility is one of the difficult tasks of gynecology. Our imperfect knowledge of the cause is the origin of our trouble when we come to treatment. Women addicted to alcohol have become pregnant upon becoming teetotallers. Obesity is treated by a rigid diet, the menses increase as the obesity decreases, and the patient frequently conceives. A hyperæsthetic condition of the vagina sometimes necessitates anæsthetization. The radical treatment of endometritis by curetting is frequently followed by conception. The author has had good results from a solution of perchloride of iron one part, glycerine three parts, painted in the cervical canal in chronic endometritis. Constitutional treatment is often effective. Outerbridge has devised a new instrument for the cure of sterility. It consists of a steel wire, gold or silver plated, with a slight eversion at one end, with the other bent at right angles. This is inserted into the cervix. Catheterization of the Fallopian tubes is sometimes effective. Sea-bathing, residence at watering-places, and the use of mineral waters have a very beneficial effect on many stubborn cases. The crystalline phosphide of zinc, one-eighth grain, morning and evening, is highly recommended. Tea-drinking and the ingestion of tannin and sulphur are to be avoided. Belladonna has the reputation of promoting conception. According to Cohnstein, there are times with every woman which might be called the period of predilection for fecundation. If reflux of semen be the trouble, the hips should be elevated during coition, and the penis allowed to remain as long as possible in the vagina. The taking of the knee-chest position immediately after coitus is recommended, and perineorrhaphy is sometimes necessary. As a last resort, artificial impregnation is necessary in otherwise hopeless cases. It is disagreeable to all concerned, but there are no real moral reasons against it. An alkaline vaginal injection of phosphate of soda should precede the operation, to neutralize the vaginal secretions. Sexual intercourse should take place promptly; the syringe, new, free from infecting matter, should be at the exact bodily temperature, the semen taken up carefully, the nozzle inserted clear to the fundus, and the fluid injected.

An extensive bibliography accompanied this paper.

Dr. George W. Ryan, of Cincinnati, read a paper entitled

THE ORTHOPEDICS OF INFANTILE PARALYSIS.

The author reached the following conclusions:

1. That orthopedic treatment, in conjunction with local treatment of muscles, is useful in all children who have arrived at the walking age. It gives support and prevents deformity.
2. That it tends to preserve, in a measure, the proper balance between antagonistic groups of muscles by aiding the weakened group and restraining the normal ones.
3. That by this means the paralytic group are given the benefit of any movement of which they are capable, and in this way can they get exercise.
4. That it certainly can correct deformity.
5. That a heavy appliance, or one adjusted by lacing bands to the leg or thigh, does more harm than good.
6. That such measures are a necessity in the after-treatment of divided tendons and muscles.
7. That in most contractions it is better to divide than to stretch them.

Dr. C. S. Bond, of Richmond, Ind., read a paper entitled

EARLY DIAGNOSIS OF CHRONIC KIDNEY LESIONS.

This paper was really the report of a committee of one appointed at St. Louis last year. In conclusion he gave the following summary:

Albumin in the urine probably always means disease somewhere in the body. In so-called physiological quantities it may be referred to disease removed from the kidneys, and the cause as transient. In pathological quantities it signifies either inflammation external to the kidneys, or a lesion of these organs. Many patients with evident kidney lesions do not pass albumin. Albumin is inconstant, and bears no relation to the extent of the lesion; but when present must be respected as a prominent factor in diagnosis. It generally makes its appearance a long time after other well-marked symptoms have existed, and the disease is grave when it exists in pathological quantities, and the symptom therefore should not be awaited.

Casts bear an intimate relation to albumin, but appear later. They are strong proof of renal inflammation, as they carry, usually, a part of its epithelium. Differentiation of the varieties of kidney lesions can often be made from this fact; but they, like albumin, are inconstant. Many patients do not pass them at all, and they always appear too late as a factor in early diagnosis.

The specific gravity of the urine is not to be relied upon, unless the mean specific gravity of many specimens is taken for known quantities of urine for twenty-four hours. This would mean a small amount of urea passed within the time, since it is the dominant salt eliminated; therefore why not test for urea at once?

Some outward manifestations of ill-health, perhaps continued for years, always precede the passing of albumin and casts. These symptoms are in common with well-marked kidney lesions, and are not due to other discoverable physical causes. Cases, often without a change in these symptoms for years, begin passing albumin and casts. It is fair, therefore, to assume that the symptoms referred to are the result of some common cause which precedes the pronounced kidney lesions. This common cause seems to be something which produces extension,

and often inflammation, of serous membranes, which at the same time, or remotely, involves the kidneys. What this cause is, we can at present only conjecture; but many of its pathological effects might be turned to advantage in early diagnosis. Urea is excreted in abnormally small quantities in cases of well-marked kidney lesions. It is also so excreted in cases having the prominent physical symptoms without albumin and casts. It is interchangeable as a means of diagnosis with the outward signs of the disease, *i.e.*, a knowledge of ill-health being also a knowledge of the amount of urea passed, and *vice versa*. Urea is excreted in small quantities for months, and often years, before albumin and casts appear, therefore a knowledge of this excretion is invaluable as a diagnostic sign of early lesion.

The diminished quantity of urea eliminated is the result of constitutional disturbances, which precede the local lesion for long intervals of time. Active treatment, which would be harmful in other diseases having some symptoms in common, will identify this, generally relieves, and frequently apparently cures.

TREATMENT OF THE INSANE IN RELATION TO SCIENCE

was the subject of a paper by DR. ORPHEUS EVARTS. Superintendent of the College Hill (Cincinnati) Sanitarium. This paper was very laudatory of the modern treatment, He did not believe insanity was a disease of civilization. It was a disordered brain. All who have brains are liable to this disease.

THE FORMATION OF AN ARTIFICIAL URINARY CANAL

was the subject treated by DR. W. N. WISHARD, of Indianapolis.

DR. WILLIAM C. WILE, of Danbury, Conn., in discussing this paper, described an operation for this object which was original with himself. The paper was further discussed by Dr. G. Frank Lydston, of Chicago.

PURULENT CONJUNCTIVITIS

was the subject of a paper by DR. D. A. THOMPSON, of Indianapolis. He insisted on cleanliness, washing the eye, if necessary, every half hour with a saturated solution of boracic acid in water. He also used the nitrate of silver, but had not met with success in the use of bichloride of mercury. Discussed by Dr. Knapp, of Evansville.

SYMPATHETIC DISEASES OF THE EYES FROM INFLAMMATION OF THE NASAL PASSAGES

was the title of a paper by DR. FRANCIS DOWLING, of Cincinnati. He thought the medical attendant was too prone to treat the eye disease and overlook the disease in the nose. He should recognize the fact that the origin of the disease is in the nose and not in the eye, and shape his treatment accordingly.

"The Cautery *v.* the Snare" was the subject treated by Dr. E. R. Thompson, of Indianapolis.

DR. FLETCHER INGALLS, of Chicago, Ill., read a paper on

CHRONIC TONSILLITIS.

He insisted on not subjecting children to the torture of removal of the tonsils without the benefit of an anæsthetic. The paper was discussed by Drs. William Porter, of St. Louis, and E. R. Lewis, of Indianapolis.

Dr. I. N. Bloom, of Louisville, reported two cases of "Amputation of the Penis," and discussed the subject.

DR. C. F. MCGAHAN, of Chattanooga, Tenn., read a paper on

THE TREATMENT OF PULMONARY PHTHISIS.

He thought when there were present symptoms of the disease without inflammation, the majority of the cases are capable of cure. He reviewed the treatment of phthisis since the discovery of Koch, and related his personal experience. He had phthisis in 1882 (but didn't look as if he had) and had recovered. In treatment, we have returned to nutrition and pure air. We should always let the patient have a thread of hope, though it may be a false one. The care of the stomach was the great thing. Give as few medicines as possible, so as to keep the stomach in good order. The hygienic treatment should take precedence over the medical. As for health-resorts, he favored Asheville and Aiken.

"Differential Respiration" was the subject of a paper by Dr. F. C. Wilson, of Louisville, who showed his bellows for this purpose.

CONTAGIOUSNESS OF PHTHISIS.

The report of the committee appointed last year was made by Dr. William Porter, of St. Louis, Mo. He thought the word portageous was more accurate than contagious. He thinks the evidences of transmissibility in tuberculosis are conclusive. Two hundred and fifty-one English physicians, in active practice in families, have replied in favor of the theory of the transmissibility of tuberculosis. The New York Board of Health has passed resolutions which acknowledge this contagion. The fact has been published that there have been no cases of tuberculosis among the nurses and house physicians at Brompton Hospital. This is true, on account of the excellent hygiene of that institution, and does not prove the non-contagiousness of the disease. It has been written that there was no tuberculosis among the North American Indians, and but little among the early settlers of New England. One hundred years ago the climate of New York was thought to be good for tuberculosis by Europeans, who sent their patients there; then, later, the prairies of Illinois were lauded for the same purpose; later still, the mountains of Colorado and the valleys of California. He emphasized the fact that the care of localities used as resorts for consumptives was very important, so that they do not get infected with the disease. He recommended that consumptive patients use cuspidors in which there was a 1 to 1,000 solution of bichloride, as it has been demonstrated that a weaker solution has not always the potency sufficient to destroy the bacilli. He recommended, as a prophylactic measure to the spread of tuberculosis, the most careful inspection of meat and milk. He considered the future of this subject a bright one.

DR. EDWIN RICKETTS, of Cincinnati, read a paper on

TUBERCULAR PERITONITIS, WITH REPORT OF A CASE,

in which he advocated the operative treatment in this trouble.

DR. THEODORE POTTER, of Indianapolis, said that no one doubted that the tubercular bacillus causes the disease. We cannot doubt this any more than we doubt the laws of gravitation. We must remember that tuberculosis is a local disease just as much as is an abscess. It may become general, but it is not so in the beginning, and only accidentally becomes so. Tuberculosis is not generally hereditary. We are now on more positive and definite ground in regard to this disease than ever before.

The paper was further discussed by Drs. Earley, of Pennsylvania; Cutter, of New York; Brayton, of Indianapolis; Chapman, of Toledo; Meyers, of Fort Wayne; Reynolds, of Louisville; McGahan, of Chattanooga; Ricketts, of Cincinnati; Porter, of St. Louis.

DR. BRANSFORD LEWIS, of St. Louis, read a paper on

THF PRINCIPLES THAT SHOULD GUIDE US IN THE TREATMENT OF GONORRHŒA.

The question of bacteriology is considered of the first importance in every subject of medical or surgical science; the admission of this leads to an inquiry as to what the study and acquaintance with the life-history of the gonococcus has done for our assistance in the treatment of gonorrhœa. He concluded that our knowledge had only served to mollify the severity to a certain extent, and somewhat shorten the duration of the disease. Beautiful and touching theories had been constructed to explain how the gonococcus would quail with fear at the prospect of being literally boiled alive by a hot injection, or

of being washed out into the cold world by a prolonged irrigation, or dried into an Egyptian mummy of a coccus in the arid soil of an astringent, antiseptic, magic-healing, absorbent powder, etc. But experience with these various agents has shown that none are infallible; that all are subject to the varying influences met with in treating after the older prevalent methods.

It must be admitted that germicides and antiseptics do kill gonococci—in culture-fluids; why not then in the urethra? For this reason: The gonococci, in preparing for the conflict, do not foolishly remain where they may be brought under the influence of medicaments; they make their landing and start immediately for the woods, so to speak. They penetrate between the epithelial cells and reach the basement (connective tissue) layer, which obstructs their farther progress. Thus medicines are prevented from reaching them by the tissues themselves.

He concluded that the proper treatment of gonorrhœa should be based on the idea, not of checking it in the early but established stages, but of carrying it through its various stages, with allowing as little suffering from annoyance and pain, etc., as possible; limiting it as much as present powers will permit, and preventing complications and sequelæ.

In the second stage lanolin, medicated with non-irritating antiseptics, and in the subacute, or third stage, the addition of some mildly stimulating astringent is excellent treatment. The application was made with an instrument, which was shown, an instrument-box having a catheter stem; a late modification was a soft vulcanized rubber stem. Resorcin was recommended as a medicinal agent; boric acid or thalline is probably best in general. Bichloride of mercury and carbolic acid are too irritating.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 13 to October 19, 1889.*

HAVARD, VALERY, Captain and Assistant Surgeon. Leave of absence extended one month. Par. 3, S. O. 240, A. G. O., October 15, 1889.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Granted leave of absence for one month. Par. 1, S. O. 98, Headquarters Department of the Platte, October 12, 1889.

HEGER, ANTHONY, Lieutenant-Colonel and Surgeon. Relieved from duty in Division of the Atlantic, and ordered for duty as Attending Surgeon, Washington, D. C. Par. 2, S. O. 241, A. G. O., October 16, 1889.

ADAIR, GEORGE W., Captain and Assistant Surgeon. Leave of absence extended for fifteen days. Par. 15, S. O. 238, A. G. O., October 12, 1889.

O'REILLY, ROBERT M., Major and Surgeon. Granted leave of absence for six months, with permission to leave the United States. Par. 3, S. O. 241, A. G. O., October 16, 1889.

LORING, L. Y., Major and Surgeon. Sick leave extended two months on Surgeon's Certificate of Disability. Par. 16, S. O. 241, A. G. O., October 16, 1889.

BRADLEY, ALFRED E., First Lieutenant and Assistant Surgeon. Relieved from duty at David's Island, N. Y. H., and ordered to Fort Omaha, Neb. Par. 2, S. O. 241, A. G. O., October 16, 1889.

EVERTS, EDWARD, Captain and Assistant Surgeon. Relieved from duty at Fort Apache, Ariz., and ordered to David's Island, N. Y. H. Par. 2, S. O. 241, A. G. O., October 16, 1889.

MAUS, LOUIS M., Assistant Surgeon. Relieved from duty at Fort Porter, N. Y., and ordered to Fort Stanton, N. M. Par. 10, S. O. 242, A. G. O., October 17, 1889.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. Relieved from duty at Fort Laramie, Wyo. Terr., and ordered to Fort Apache, Ariz. Terr. Par. 2, S. O. 241, A. G. O., October 16, 1889.

HARRIS, H. S. T., First Lieutenant and Assistant Surgeon. Relieved from duty at San Antonio, Tex., and ordered to Fort Keogh, Mon. Par. 2, S. O. 241, A. G. O., October 16, 1889.

GIBSON, JOSEPH R., Surgeon. Relieved from duty at Fort Sheridan, Ill., and ordered to Governor's Island, N. Y. H. Par. 10, S. O. 242, A. G. O., October 17, 1889.

GARDNER, EDWIN F., Assistant Surgeon. Relieved from duty at Fort Lewis, Col., and ordered to Fort Porter, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

EWEN, CLARENCE, Surgeon. Relieved from duty at Madison Barracks, N. Y., and ordered to Willets Point, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

GIRARD, ALFRED C., Surgeon. Relieved from duty at Boise Barracks, Idaho, and ordered to Fort Niagara, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

HALL, JOHN D., Assistant Surgeon. Relieved from duty at Fort Niagara, N. Y., and ordered to Madison Barracks, N. Y. Par. 10, S. O. 242, A. G. O., October 17, 1889.

TAYLOR, MARCUS E., Assistant Surgeon. Relieved from duty at Fort Stanton, N. M., and ordered to Boise Barracks, Idaho, Par. 10, S. O. 242, A. G. O., October 17, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending October 19, 1889.*

BERTOLETTE, D. W., Surgeon. Detached from the Franklin, and ordered to duty at Naval Hospital, Philadelphia.

RUSH, N. H., Passed Assistant Surgeon. Detached from Naval Hospital, Philadelphia, and ordered to the Saratoga.

HIBBETT, C. T., Passed Assistant Surgeon. Ordered to the Franklin.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 19, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 55 | 12 |
| Scarlet fever | 32 | 3 |
| Cerebro-spinal meningitis | 1 | 3 |
| Measles | 28 | 1 |
| Diphtheria | 69 | 24 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

URINE OF BUSINESS MEN.—There is no question that too little attention is paid to urinalysis by the majority of practising physicians, especially the microscopic part of the work. All know how to test for albumin and sugar, but very few can make a quantitative analysis of urea, and a still smaller number have no microscope, neither do they know the most common crystals. An examination of the urine will reveal the incipiency of many diseases which can be throttled at the outset, and then the physician can exercise his prophylactic powers, the most useful part of his life work, for it is better to prevent than to cure. Dr. Clifford Mitchell, of Chicago, in the *Medical Era*, seems to have been especially interested in the urine

of business men, and he emphasizes some important points. The urine of the over-worked and over-fed American business man usually shows in the beginning, before any renal disease is actually present, the following characteristics: The total quantity of the urine for the twenty-four hours is greatly reduced, sometimes to half the normal quantity. The color is usually, therefore, darker than normal, and there is an abundant sediment in which urates, uric acid, and often calcium oxalate may be seen with the microscope. The urine being diminished in quantity, and the acidity relatively increased, the urates and uric acid cannot be held in solution as they ought to be. Estimation of the total quantity of urea will almost invariably show this substance to be diminished to a figure considerably below normal. Perceptible traces of albumin and sugar I occasionally find in the urine of hyperactive business men, but in many cases both these constituents are as yet absent. I say "as yet," for sometimes, if all warnings are unheeded, one or the other of these unwelcome visitors, in time, may make its appearance. I regard persistent decrease in both fluids and solids of the urine of great significance in those who eat hearty and exercise little. It is not necessary that either albumin or sugar be present—there is enough trouble without them. When a man of average weight voids daily no more urea than we find in the urine of a delicate woman, or a bedridden patient, it is time to cry "Halt." I have found these patients with diminished urea and crystalline sediments have all sorts of aches and pains. Headache is a very common concomitant. Sleeplessness is another. If I could have my own way I would estimate the urea in the urine of every patient in the country suffering from insomnia, or restless unrefreshing sleep. Not all insomnia is due to lithæmia, but many cases, apparently hopeless, could be helped were the conditions properly understood.—*Saint Joseph Medical Record.*

Tests for Minute Amounts of Albumin.—The importance of a trustworthy and convenient test for minute proportions of albumin in urine is coming to be more and more widely recognized. The subject is treated of exhaustively and very clearly in a work recently issued in Paris, entitled "Traité de l'Albuminurie et du Mal de Bright," by Dr. E. Lecorché, an adjunct professor of the Faculté de Médecine, and Dr. C. Talamon, a physician to the hospitals. These authors have devoted much care to a comparison of the principal compound reagents used for the detection of minute amounts of albumin. Those that they have experimented with more particularly are: A mixture of acetic acid and potassium ferrocyanide; a mixture of acetic acid and mercury bichloride; a mixture of acetic acid and potassium and mercury iodide (Tanret's); a mixture of acetic acid, carbolic acid, and potash (Millard's); a saturated solution of sodium chloride acidulated with hydrochloric acid (Roberts'); and a mixture of sodium phosphotungstate and citric acid (Oliver's). Tanret's test has commonly been considered equal, if not superior, to all other tests for small quantities of albumin, but Lecorché and Talamon give Millard's the preference. So far as the application of the various tests without the aid of heat is concerned, they say: "We have no hesitation in giving the preference incontestably to the American author." Both Tanret's and Millard's tests, they remark, show albumin in the proportion of 1 part to 200,000 and even 300,000 parts; but, while the disk produced with Tanret's is pale and diffuse, that caused by Millard's is much more distinct, although very thin. Millard's test, they repeat, is the surest and most convenient. Besides the greater distinctness of the albuminous ring produced by it, the substances that may lead to error in drawing deductions from its use are only urates, peptones, and mucin, and they are easily recognized. Urates and peptones are precipitated on gently heating the test-tube at the level of contact, and mucin, which always causes a dusty turbidity *above* the line of contact, is readily distinguished with a little practice. The authors add that, when heat is employed, Oliver's test shows some advantages over both Tanret's and Millard's. It is satisfactory to have such definite and authoritative statements of the merits of a particular test, and it is gratifying that the preference is so distinctly accorded to a test devised by one of our own countrymen. It may be well to remind our readers of some facts connected with his test for albumin. The solution is composed of two parts, by weight, of ninety-five per cent. carbolic acid, seven of glacial acetic acid, and twenty two of liquor potassæ. When the quantity of albumin to be tested for is very minute, the urine should be clarified and allowed to trickle down slowly upon the solution.—*The New York Medical Journal.*

Heredity.—Sir William Turner, Professor of Anatomy in the University of Edinburgh, delivered an address on "Heredity," in which, while pointing out that in some cases structural lesions, such as hare-lip, color-blindness, and deaf-mutism, are transmitted, he also maintained, in opposition to some physiologists, that acquired characters can be transmitted from parent to offspring. He said, in concluding his address, that whatever the origin of man's frame, whether by evolution or otherwise, it could scarcely be expected ever to attain greater perfection than at present. Man was, however, also endowed with a spiritual nature, and the kind of evolution to be hoped and striven for was the perfecting of this spiritual nature, so that the standard of the whole human race might be elevated and brought into more harmonious relation with that which was holy and divine.

An American View of Medicine in Germany.—In the course of an address on the "Remedy for Overcrowding in the Medical Profession," Dr. Boyd Cornick (*The Journal of the American Medical Association*, May 4, 1889) makes the following statements. "Germany is probably excelled by no other government in the world in the stringency of its laws regulating admission to the ranks of the medical profession. Not only is the preliminary course of study long and arduous; not only must each aspirant have passed through every successive grade of prescribed preparatory instruction; not only must he have secured the endorsement of some noble university, justly famed for the high standard of learning which its degrees imply; not alone must the aspiring youth devote many years of time and many hundreds of thalers to a completion of the course marked out for him by the authority of the State; but, in addition to all this, even though the possessor of a university degree, he must finally pass a rigid and awe-inspiring Staats-examen before a government licensing board; and then, if successful in this latest ordeal, he is permitted to practise medicine within the confines of the German Empire. As a consequence of all these stringent requirements, the medical profession of Germany leads the vanguard in the world-wide march of progress in the medical sciences. Such results certainly justify the high standard of qualification requisite for entrance into the medical profession of Germany. But, alas! even in that favored land, whose laws regulating the practice of medicine are exceeded in stringency by those of probably no other government under the sun, we are confronted with the same problem of an overcrowded medical profession, which is harassing the minds of medical men throughout the confines of our civilization."

Wordly Wisdom.—Professor Charpentier, of Paris, gives the following advice to physicians, as to the most prudent answer to be given when asked what they think the sex of the child is going to be. "Reply by asking the mother what she would prefer in the child, and then give it as your opinion the opposite is the one to be looked for. In this way, if the sex turns out to be the one you have prognosticated, you will be thought a wonderful man, while if it proves to be the one the mother has wished for, she will be so pleased that she will easily overlook your error."

# The Medical Record

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## Original Articles.

### ELECTRICAL INJURIES.[1]

BY CHARLES L. DANA, A.M., M.D.,

NEW YORK

WITH the development of new industries or inventions there occur new disorders or new factors in the production of disease and of injuries. These are always slight in comparison with the benefits that come from great and successful industries, yet they must be taken into account by the physician and surgeon.

We are now entering upon an era of tremendous activity in the practical application of electricity. Aside from the telegraph and telephone, electricity is becoming rapidly introduced as a method of lighting, heating, motor power, and locomotion. There were in this country alone in March, 1889, over 219,000 arc-lights, 2,500,000 incandescent lights, and over 5,000 electrical plants, with $69,000,000 of capital invested (Duncan, *Electrical Review*, March 2, 1889). There were 53 electrical railways, operating 329 cars. These figures are increasing with the greatest rapidity.

Along with the introduction of these new industrial methods we are meeting accidents and injuries of all grades of severity; and in time there will be associated with electrical systems, classes of injuries some of which will be perhaps peculiar to them, some will resemble those known as railway brain and railway spine, traumatic hysteria, and other neuroses or psychoses, while a large number will be only of the ordinary surgical character.

The means by which the electrical current does harm varies, naturally, with the form in which it is used. The telegraph and telephone produce peculiar neuroses, due not to the electrical current, but to the peculiar demand made upon the nervous system of the operator, the results being telegraphers' cramp, aural and mental disorders of telephone transmitters, etc. Electricity only does direct injury to telegraph operators through lightning, or connection with wires carrying strong currents. Of injuries directly connected with electro-motors and electric railways there is little yet known. In electric roads run by a bare wire overhead, accidents are possible, though the current is not so strong as that usually employed for arc-lights, being about 500 volts. Most of the observed cases of electrical injury come from the apparatus carrying electrical currents for lighting and power.

The currents most in use are interrupted and alternating currents of 1,000 to 2,000 volts electro-motor force. Such currents, when received by the human system, have varying effects, in accordance with the mode of contact and the susceptibility of the individual. In some cases they merely stun the victim, and burn the parts in contact with the wire. In others, they have been known to produce permanent paralytic effects. Of such cases, however, there are only two on record. In still other instances almost instantaneous death results; while, sometimes, a mental shock is produced, which affects the system just as other shocks do, causing conditions known as traumatic hysteria or neurasthenia.

The number of fatal accidents from electrical currents during the past ten years has been variously estimated at from 100 to 200. In this city, according to a report kindly furnished me by the Board of Health, it has been: 1886, 0; 1887, 3; 1888, 5; up to October 19, 1889, 5. There can be no doubt that an alternating electrical current of 1,200 volts, properly applied, will surely kill a human being. I do not wish to bring up the question of death by this means, however, but only to state that the physiological fact is, I believe, an indisputable one.

A further physiological fact, that has been in my opinion established, is that the electrical resistance of the human body averages less than 2,500 ohms, with strong currents. The observations regarding resistance made by Mr. Kenelly under the direction of Mr. Edison were, as I have good reason to believe, carefully and scientifically performed, and constitute a contribution of indisputable value to this subject. We know that human resistance varies considerably with the individual, these variations depending chiefly upon the moistness, thickness, and vascularity of the skin, and upon the carefulness of the contact; also, that it decreases rapidly with the continued passage of the current, and is less with very strong currents than with weak ones. Experience seems to show also that the maximum alternating current which it is safe to come in contact with is one not over 400 ohms, though I do not believe that even this could kill, except it were applied directly to the brain. There is still a dispute as to whether the continuous, interrupted, or alternating current is the safer, and into this controversy I do not propose to enter. A current of either kind stronger than 600 ohms would not be a pleasant thing to take.

The electrical current burns or not according to the dryness of the skin and clothes, and the consequent degree of resistance. With a dry skin there is more burning, less penetration, less shock, and less danger of death. With a wet skin and good connections, there is little burning and more serious internal effect. Dr. Biggs has noted that most of the fatal electrical accidents have occurred on or after rainy days.

The accidents and injuries from electrical currents have so far shown that they kill, or they burn severely, or they do no permanent harm. This, at least, is the rule.

When a person by accident receives a current of from 300 to 1,000 ohms, it promptly knocks the recipient down, and may cause a temporary tetanus even if the current is at once broken. Consciousness is not usually lost, but severe, agonizing pain and terror are felt. In a few moments the muscles relax, the patient is able to move, he gradually picks himself up, and in a short time is in fair condition. His arm or leg, or whatever part was in contact with the wire, feels numb for some hours or even longer, but I know of no certain cases of local paralysis.

A vivid account of the effects of a strong but non-fatal continuous current is given in the *Occidental Medical Times*, 1889, p. 562. The victim, an electrical engineer, took hold of a wire in each hand and made the connection through his body. The current as subsequently measured was over 1,400 volts, and the current strength must have been about 1 ampère. He described his feelings as follows:

"'My hands were paralyzed, my arms were as stiff as bars of iron, and the cords stood out in large bunches; my head was turned round in the direction of the current; my eyes bulged out with burning pressure and glazed over; then I lost my senses and fell to the floor.' The fall pulled one of the wires, which was attached to the ceiling, out of his hand and so broke the circuit. He at once recovered his senses, and attempted to recouple the

[1] Read at a meeting of the Practitioners' Society, October 4, 1889.

wires, when some of the employees interfered, but he was sufficiently collected to give the necessary directions for opening the circuit. The time of contact was not less than five nor more than eight seconds. There was no pain to speak of—not more than would be felt from a strong galvanic battery. His hands and fingers were burnt, but owing to the fact that they were moist, and that he had a firm hold on the wires, the burns were slight. The shock to the nervous system was very severe, and two months later the effects were still evident."

The electricity, even in fatal doses, does not usually much affect the nervous structure, but tends rather to cause carbonization of the blood, paralysis, and distention of vessels, and sometimes hemorrhages, with occasionally disruption of muscular and vascular or other tissue. A direct disorganizing effect upon nerve-centres seems possible, however, from two cases of organic paralysis of which accounts are given.

A good many electric-light employees get minor shocks which stun them a little, but they do not seem to mind it. In some of our dispensaries there is, I am told, quite a contingent of cases of burns and stunning, with numbness; but it is only the burns that are complained of.

In more sensitive persons it is quite possible, however, that morbid psychical and neuro-psychical conditions may be produced.

Dr. William G. Thompson recently reported a curious case of traumatic hysteria. The details will be published in full. I saw and examined the patient, however, and Dr. Thompson kindly consents to my referring to it. A man, aged fifty, not long ago saw an Italian killed by an electric wire. Two weeks later, while walking along the street, an electric wire which had just been cut fell and struck his head. He grasped it in his hand, and fell down. He says that he knew nothing until a few hours later, when he found himself in the hospital. He then had right hemiplegia and hemianæsthesia, including the senses of smell and taste. There was limitation of the visual and auditory fields, bone deafness, pharyngeal anæsthesia, and all the stigmata of typical hysteria. The wire which struck him was a "dead" one; and the blow was slight, and caused no contusion.

A case illustrating the fact that the strongest currents may be taken without local or general paralysis is the following, which I shall give only in outline:

A young man, aged twenty-three, was accidentally struck by a live wire. He grasped it with his left hand, and instantly fell down. The current, which was that of the arc-light, passed through the arm and body for several moments. He remembers only feeling a sudden blow on the head which knocked him down and made him partially unconscious. He heard voices about him, saw a glimmering light, felt intense pain, and momentarily expected death; finally he lost consciousness.

The result of the injury was that his left hand was so severely burned that it finally had to be amputated, but the arm was not in the least paralyzed or anæsthetic, and the effect on the general bodily functions was *nil*. It is a curious fact, indeed, that some patients feel better after severe electrical shocks. In others, as already intimated, the condition known as traumatic neurasthenia or hysteria may supervene. Dr. Peterson has had under observation a case of this kind. I have also met one such case.

A severe and sometimes fatal accident occasionally befalls the linemen. While at work on the poles they receive a shock which stuns them so that they fall to the ground and receive their real injury from this fall.

Such an accident came under my observation recently, the case being taken to the Gouverneur Hospital in the service of Dr. Ward. The man was knocked off the telegraph pole by an electrical shock, and fell, fracturing the base of his skull. He eventually recovered.

My present article is intended to be brief and introductory, and I shall not attempt to cite further cases. It has not been my purpose especially to call attention to the dangers of electrical currents or to exaggerate their importance. The fact is that the practical introduction of electricity has been attended with much less fatality than that caused by gas, steam, railroads, and many other of the inventions of modern life.[1]

*Summary.*—Some of the points which I have wished to make in the present article may be summarized here:

The extraordinary increase now going on in the practical application of electricity—there being already nearly $100,000,000 invested in lights and power alone.

A practically new class of injuries met in connection with the new industries. Such injuries have been heretofore produced only by lightning, and they have been consequently rare.

These injuries are not numerous or serious as compared with those met with in connection with other great industries. There have been in ten years only about 100 deaths in the whole world from artificial electrical currents. The railroad kills annually over 2,500 people (2,541 in 1880) and injures about 6,000 in the United States alone.

Electrical currents produce three kinds of severe accidents:

They kill at once; or they burn severely; or by the mental and physical shock they cause traumatic neurosis.

Usually, if they burn severely they do not kill. Hence, practically, the rule is, if contact with electrical wires does not kill, the victim gets only a burn or a harmless shock.

In very rare cases the current seems to affect the nerves or nerve-centres, causing paralysis.

The minimum current safe to receive is not definitely known. Probably eight hundred to one thousand volts of continuous current, and a third less of alternating current, would not be fatal.

The wires for lighting and for power carry the more dangerous currents.

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## A SUCCESSFUL CASE OF LAPAROTOMY AND SUPRAVAGINAL AMPUTATION OF THE UTERUS FOR RUPTURE.[2]

By HENRY C. COE, M.D., M.R.C.S.,

PROFESSOR OF GYNECOLOGY AT THE NEW YORK POLYCLINIC; SURGEON TO THE NEW YORK CANCER AND MATERNITY HOSPITALS; ASSISTANT SURGEON TO THE WOMAN'S HOSPITAL.

On September 8th, at 1 P.M., I was called by Dr. R. H. Hayes to perform Cæsarean section in a desperate case of labor. Not knowing what I would find, I hastily collected a few instruments, and with my associate, Dr. G. A. Kletzsch, accompanied the doctor to a tenement-house a mile distant, in the fourth story of which we found the patient attended by Dr. W. A. Hawes, who had been called to see her in consultation. She was a healthy Irishwoman, twenty-three years of age, with a rapid, feeble pulse, evidently in a state of collapse. The gentlemen in attendance feared that rupture of the uterus had taken place two hours before. Examination of the abdomen revealed two tumors, a larger one filling the right side of the abdomen and extending as high as the ensiform cartilage, and a smaller occupying the left iliac fossa, both being firm and unyielding. It was evident that the former was the body of the uterus, tilted over to the right and in a state of tetanic contraction, and the latter the head of the child. Palpation of the abdomen above the latter gave an ominous gurgling sound, suggestive of free fluid in the peritoneal cavity. I learned that prolonged attempts had been made to extract the child by forceps and version. Introducing my hand into the

[1] For example, in France, among 223,000 railway employees there is an annual average of 239.5 killed and 1,850.4 wounded. In Germany there are 1.35 per 1,000 of railway servants killed and 3.09 per 1,000 wounded. In England the annual mortality is 2.43 per cent. In the United States among 418,957 employees, in 1880, there were 923 killed and 3,617 injured—a higher rate than anywhere in Europe (U. S. Census). In coal mining the ratio in France is 1.56 per 1,000 of killed, 8.87 per 1,000 of wounded.—*Proceedings of Congress on Accidents to Workmen*, Paris, 1889.

[2] Read before the Section on Obstetrics, New York Academy of Medicine, October 24, 1889.

vagina, I discovered that the anterior lip of the cervix was deeply lacerated antero-posteriorly, while another laceration extended through the vaginal junction on the left side. Passing my finger through the rent, I entered the abdominal cavity.

The child, which was of unusually large size (fifteen pounds), and was dead, presented in the left dorso-anterior position, with the right hand and foot prolapsed, and was firmly impacted; the head seemed to be partly outside of the uterus. Believing that a further attempt at version would only extend the tear, I at once decided that laparotomy offered the only prospect of saving the woman, and proposed this to the husband, who consented. The patient's condition was desperate, and the surroundings were such that any approach to antisepsis seemed to be impossible, but I felt that she ought to have the chance. She had lost a large amount of blood and her pulse was so feeble that hypodermics of brandy and ether were given. Fifteen minutes after my arrival, assisted by the gentlemen mentioned, and by Dr. Huntington, who had been sent for, I made a free incision, eight inches in length, through a very fat abdominal wall and opened the peritoneal cavity, which contained a quantity of fluid blood and clots. A rent was found extending upward from the cervix through the left broad ligament and the lower uterine segment. The head of the child lay in the left iliac fossa outside of the uterus, being grasped by the edges of the tear. I saw at once that this was not a case for suture of the uterus, as arterial hemorrhage was going on from the vessels of the lacerated broad ligament, and the condition of the patient was such that no time was to be lost. The uterus was turned out of the cavity, the cervix constricted by a piece of rubber tubing cut from a fountain-syringe (I had forgotten my écraseur in my haste), and the child was extracted through the rent. Without waiting to remove the placenta, I secured the tubing with a pair of artery-forceps, excised the uterus with the ovaries and tubes, and proceeded to tie the bleeding vessels. This part of the operation was completed in twelve minutes. The utero-sacral ligament on the right side was also badly lacerated. The vessels having been secured, and the torn peritoneum sewn with a continuous catgut suture, the peritoneal cavity was thoroughly irrigated with hot water, and the stump was trimmed down and secured in the wound with knitting-needles. No drainage-tube was used.

The bladder was carefully inspected, and was apparently uninjured. The cervix had been so badly torn that I expected it to slough out, as subsequently happened. The wound was hastily closed and the patient was placed in bed in fair condition in less than an hour after the operation, the delay having been due to the time spent in suturing the torn peritoneum. She rallied well, but had a pulse of 140 to 150, and no hopes were entertained of her recovery. From the outset she was free from nausea, and was able to take stimulants. On the second day her temperature rose to 102°–103° F., and there was general abdominal tenderness and distention, but, by maintaining free catharsis and using the ice-bag, peritonitis was aborted. The urine was drawn during the first four or five days, after which it was usually passed spontaneously. The stump quickly necrosed; on the fourth day I replaced the tubing by a Koeberlé's *serre-nœud*, and removed the entire mass at the end of a week, packing the cavity with iodoform gauze. The patient's condition at this time was not entirely satisfactory. She took nourishment and stimulants freely, but her pulse remained at 120 and her temperature rose every evening to 101°–102° F. At one time an exhausting diarrhœa threatened her life. She complained of no pain, but I feared suppuration of the hæmatocele which had formed in the left broad ligament. As there was considerable discharge from the vagina, injections of creolin (1 to 400) were given after the first few days, with iodoform suppositories.

Early in the second week the urine began to escape per vaginam, although the patient could retain it to some extent. A careful examination with the finger and speculum showed that a cervico-vesico-vaginal fistula had been established, and that there was considerable sloughing of the upper portion of the vagina. All the necrosed tissue at the bottom of the abdominal wound was picked away, until nothing remained of the cervix but the portio vaginalis; the wound granulated nicely, but there was a free communication with the vagina through which urine and the douche-water sometimes welled up. After the second week the patient's temperature became normal, with an occasional evening elevation to 100°–101° F., and she complained of nothing but the constant dribbling of urine. Her subsequent history was uneventful. She was allowed to get up at the end of the fourth week, at which time the wound still communicated with the vagina, and not quite so much urine dribbled away as at first. At the end of the fifth week the abdominal wound had entirely closed.

It is hardly necessary to add that the after-treatment of such a serious case in a dirty tenement-house required the constant personal supervision of a physician, and I take pleasure in acknowledging my indebtedness to Dr. Kletzsch, and especially to the attending physician, Dr. Hayes, for their assistance in this most thankless task. Without the exercise of constant vigilance the patient would certainly have succumbed to the operation or to the subsequent complications.

Before commenting on this case, it is important to classify it. As my friend Dr. Robert Harris, of Philadelphia, has clearly pointed out, it is neither a Porro nor a Cæsarean section proper, but is an operation *sui generis*. I was myself misled by a paper of Professor Lusk's in which he refers to the two successful cases of "Porro's operation" for rupture of the uterus, reported by Slavjansky and Fontana. If it receives any name at all, it should be called "Prevôt's operation," since Prevôt, of Moscow, reported the first case (unsuccessful) in which the ruptured uterus was amputated after removal of the child through the rent, without previously incising the organ. The entire difference between this procedure and the Porro-Cæsarean operation lies in the fact that in the former hysterotomy is not performed. Through the courtesy of Dr. Harris, who has taken the greatest interest in my case, I am enabled to present a table prepared by him, which, so far as I have been able to determine by personal research, with the addition of two other cases, is complete up to date.

I at first supposed that mine was the only case in the United States, as I believe that it is the only successful one, but Dr. M. Price has kindly sent me the notes of a similar operation performed last April, which I will quote in order to emphasize the difference in treatment in the two instances. Dr. Harris informs me that there have been ten true Porro-Cæsarean sections for rupture of the uterus in this country, four women having been saved. The details of Dr. Price's case are briefly as follows: He was summoned by a midwife to see a woman who was in labor with her seventh child, and had lost so much blood that she was pulseless. On examination the child was found to be presenting transversely, the left foot and leg extending into the peritoneal cavity through a rent in the uterus. The doctor delivered the child after performing version, and sent for assistance. The abdomen was opened, the placenta was removed from the abdominal cavity, and the uterus was lifted out. The organ had "not only a long laceration in its left wall, but was considerably torn from its vaginal attachment, with no apparent contractile power left." The *serre-nœud* was applied, and the uterus was removed. The patient succumbed half an hour later.

The reporter explains that his reason for delaying the operation was the want of counsel and assistance, and the fact that he could not communicate with the husband until an interpreter had been summoned. While appreciating the doctor's position, which was more difficult than my own, since I was able to operate without delay, I cannot help thinking that if he had waited for assistance *without performing version*, and then had operated

*Cases of Ruptured Uterus Treated by Supra-vaginal Amputation, as Initiated by Prevôt, of Moscow.*

| No. | Date. | Operator. | Locality. | Hospital or private house. | Age. | Number of pregnancy. | Time between operation and rupture. | Condition of woman at time of operation. | Result to woman. | Result to child. | Cause of death in woman. | Treatment of cervical stump. | Duration of operation. | References. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Nov. 22, 1878 | Dr. Oscar Prevôt | Moscow | Hospital | 33 | Fifth | 10 hours | Suffering from incipient peritonitis. | Died on fifth day | Dead | Frequent hemorrhages from pedicle. | Extra-peritoneal | 45 minutes | American Journal of Obstetrics, October, 1880. |
| 2 | Feb. 12, 1880 | Prof. Sänger | Tübingen, Germany. | Hospital | 20 | First | 6 hours | Exhausted; tympanites uteri. | Died in 33¼ hours. | Dead | Collapse; gangrene of uterus and vagina. | Extra-peritoneal | 70 minutes | British Medical Journal, January 26, 1884, p. 158. |
| 3 | March 14, 1881 | Prof. Ercole Pasquali | Rome, Italy | Hospital | 38 | Fourth | 3 days' labor; not given. | Favorable | Died in 24 hours | Dead | Septicæmia | Intra-peritoneal | 1 hour | Annali di ostetricia di Milano, 1881, p. 599. |
| 4 | April 2, 1881 | Dr. Federico Fornari | Ascoli Piceno, Italy. | Private house. | 27 | (?) | 12 hours' labor, not given. | Very unfavorable. | Died in 51 hours | Dead | Peritonitis | Intra-peritoneal | 1¾ hour | Raccoglitore Medico, Forlì, xv., 1881. |
| 5 | March 21, 1882 | Dr. Marchand | Paris | Hospital | 26 | Fourth | 1¼ hour | Very unfavorable. | Died day of operation. | Dead | Peritonitis | Extra-peritoneal | 45 minutes | British Medical Journal, January 26, 1884, p. 158. |
| 6 | Nov. 2, 1882 | Dr. W. C. Grigg | London | Hospital | 25 | Third | 22 hours | In a state of collapse. | Died in 15 hours | Dead | Exhaustion | Extra-peritoneal | 2¾ hours | British Medical Journal, January 26, 1884, p. 158. |
| 7[1] | Oct. 6, 1885 | Prof. K. Slavjansky.[1] | St. Petersburg | Hospital | 37 | Ninth | | In collapse. | Recovered | Dead | | Extra-peritoneal | 45 minutes | Nouvelles Archives d'Obstet. et de Gynécol., 2, 1887, p. 534. |
| 8 | Nov. 5, 1886 | Dr. Samuel R. Mason | Dublin | Hospital | | Third | 26 hours | Very unfavorable; gas in abdomen. | Died in 10 hours | Dead | Peritonitis; oblique pelvis of Naegele. | Extra-peritoneal | | British Medical Journal, February 12, 1887, p. 337. |
| 9 | | Drs. Butruille and A. Godefroy. | | | | | | | Died | Dead | | | | Bulletin Méd. du Nord, Lille, 1887, xxvi., pp. 267–270. |
| 10 | Nov. 24, 1887 | Dr. Pier M. Fontana | Brescia, Italy | Hospital | 31 | Fifth | 24 hours; rupture from injury. | Pulse 130, respiration 30 to 32. | Recovered | Dead | | Extra-peritoneal | 1 hour | Annali di ostetricia, 1888, x., pp. 97–121. |
| 11 | April 12, 1889 | Dr. Mordecai Price | Philadelphia | Private house. | 39 | Seventh | ½ hour | In collapse | Died in 30 minutes. | Dead | Hemorrhage | Extra-peritoneal | 15 minutes | Cincinnati Lancet-Clinic, September 28, 1889, p. 336. |
| 12 | Sept. 8, 1889 | Dr. Henry C. Coe | New York | Private house. | 23 | Second | 2½ hours | In collapse. | Recovered | Dead | | Extra-peritoneal | 1 hour. | |
| 13 | | Dr. Wiedow[2] | Fribourg | Hospital | | | 14 hours | | Recovered | Dead | | Extra-peritoneal | | Annales de Gynécologie, September, 1889, p. 216. |
| 14 | | Dr. Kehrer | Heidelberg | Hospital | | | | | Recovered | Dead | | Extra-peritoneal | | Ibid. |

[1] In this case the accident occurred in the ninth month of pregnancy, the patient being knocked down by a street car. She was brought to the hospital in collapse. The case was in other respects parallel with the one reported.

[2] The patient was shown at the German Gynecological Society last June, at which time Kehrer's case was reported.

as rapidly as he did (fifteen minutes) the result would have been different. My case was even more unfavorable than his, since the patient had been under an anæsthetic for three hours, during which time the soft parts suffered severe injury from hands and instruments. There was greater laceration of the uterus and surrounding tissues, and, moreover, more than two hours elapsed between the rupture and the operation. I am sure that a further attempt at version on my part would have terminated the case fatally in a few minutes. Since the child was dead in all the cases reported, there seems to be no reason why we should destroy the small chance which the mother has of being saved by laparotomy, by trying to perform version with the certain risk of increasing the tear in the uterus, and adding to the existing shock—that is, if we intend to perform laparotomy at all. If no operation is contemplated, the case is different, and does not belong to the present category.

In conclusion, I would say that, given the same conditions, I would adopt precisely the same method of procedure in another case of rupture of the uterus, because I believe that it would offer the best chance of saving the patient, for the following reasons:

1. The operation can be performed in the shortest possible time. Time is the most important element in these desperate cases.

2. It is impossible to properly suture such an extensive rent, with contused edges, as the one described, which begins at the cervix and extends through the broad ligament up into the body of the uterus. There is imminent risk of hemorrhage after removal of the temporary constriction.

3. Where the prolonged use of instruments, without strict antiseptic precautions, has occurred, the interior of the uterus is sure to be badly contused, so that the subsequent danger of sepsis is great. I would rather run the risk of the additional shock to the patient from removing the lacerated uterus than expose her to the certain risk of septicæmia by leaving it.

4. Though the objection made by Dr. Harris, that "a cervix split by laceration cannot be very well fitted for constriction, as the part below the wire may discharge septic matter into the abdominal cavity through the rent," is a good one, nevertheless, if the tear in the peritoneum is carefully closed, and the stump is properly constricted and shut off from the peritoneal cavity, I believe that there is less danger than there is when we trust to the suture alone, without constriction. Finally, with all respect for the opinion of such a weighty authority as Dr. Harris, who believes that it "would hardly be admissible" to subject a woman with a normal pelvis to "the unsexing operation of removing the lacerated uterus with the ovaries, as was done by Prévôt," it should be borne in mind that the laparotomist is sometimes called upon to do, and to do at once, what he believes is the best thing for the patient, without regard to established precedent or even to the ordinary rules of surgery. In the presence of a dreadful emergency we cannot reason as calmly and philosophically as we would in the library.

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COLORED SPECTACLES.—Dr. Konigstein, while giving directions in his class on the uses and prescribing of spectacles, said that green glass as a protection against strong rays was worse than useless, and did more harm to a sensitive eye than good, as they allowed the yellow rays to be transmitted, and unnecessarily irritated the eye. As a protection against strong rays the blue or smoked glasses were the only real protection. The blue should be light, as a deep blue color produces a clear violet disk in the centre of the lens, which apparently corresponds to the fovea centralis, and by a protracted use of dark-blue spectacles the patient may become annoyed by the mosaic work of the fundus of the eye appearing before him. The phenomenon seems to be connected with the pigmenting changes in the macula lutea.—*Medical Press.*

## SOME CASES TREATED WITH HYDROGEN PEROXIDE.

By D. M. CAMMANN, M.D.,

NEW YORK.

HYDROGEN peroxide consists of water plus an atom of oxygen, thus forming the dioxide of hydrogen. This oxygen is in a somewhat loose form of combination, and readily separates itself when brought into contact with decaying organic matter or any substance for which it has an affinity, such as fresh roots of plants, ferments, pus, and other exudations from the animal body. This property makes it a powerful antiseptic and oxidizing agent. The peroxide of hydrogen is now known to be widely distributed in nature, it having been formerly mistaken for ozone, the tests for which are similar. It has been found in the air, in rain, in snow and hail, and in various kinds of forests, more especially among pines. The substance readily passes through animal membranes without undergoing noteworthy decomposition.[1] Whether it gives up its oxygen by direct addition to the blood is not quite certain, but from its known properties and from chemical observation of its effects such is probably the fact. It seems also to have some sedative effect upon the nervous system and to stimulate secretion from the liver and kidneys. It usually increases the appetite, but not markedly. Dr. Richardson, of London, first drew attention to the value of the drug, and recommended it in chronic and subacute rheumatism, chronic bronchitis with dyspnœa, in phthisis, and as a local application to gangrenous ulcers. He also strongly advocated its use in whooping-cough, asserting that it cuts short the disease most effectually. Lately it has been used quite extensively as a local application and as an inhalation in various cases with decided benefit. In diphtheria and other throat affections reports are in its favor.[2]

I have prescribed the peroxide of hydrogen in a considerable number of cases, mostly of pulmonary disease, in the past two years. Many of them have been decidedly benefited, and occasionally one has done better than with any other drug; but although I believe the peroxide to be of considerable value, the results attained were not such as had been hoped for from a drug which may be supposed to readily give up a share of its oxygen when brought into contact with the blood. Its value as a local application is undoubted. One case of whooping-cough in which it was given certainly recovered with remarkable rapidity. Little attention has been paid to its diuretic effect, yet it undoubtedly has considerable power in increasing the amount of urine.

I will give a few histories, and then a brief synopsis of the cases of which records have been kept. The patients took from five to twenty minims of the peroxide, most of them the larger dose, in a mixture of equal parts of hydrogen peroxide, glycerine, and water, from three to five times a day.

CASE I.—In one case of diphtheria in which ten minims were given four times daily, there was apparently little effect on the membrane from its use, but it seemed to bring some color into the cheeks. On account of the favorable reports of its effect in such cases I should be disposed to think that with larger doses the effect might have been more marked. A number of other drugs were used, including lime-water, lactic acid, tincture of iron, and chlorate of potassium, but none seemed to have much effect in clearing off the membrane, although the child eventually recovered.

CASE II.—In a case of whooping-cough the child took fifteen minims three or four times daily, with extremely satisfactory results. The paroxysms of coughing became less severe almost immediately, and in four or five days the cough almost ceased. In nine the child was so well that my attendance was no longer needed.

CASE III.—Bronchitis and subacute articular rheumatism. The woman had had several attacks of rheumatism in the past five or six years. She took peroxide for three weeks, with the results that the pains decreased rapidly and almost ceased after a few days.

CASE IV.—Mr. P. G——, aged forty-two; emphysema, and bronchitis with pleuritic adhesions; slight hypertrophy of the heart; May 12, 1888. Family history good; he has had cough for two or three years, which has steadily grown worse; has been too weak to work for the past ten days; has night-sweats; weight rapidly decreasing; appetite poor; appearance anæmic. Physical examination: Sinking in above the clavicles and below at outer third; some bulging of the chest below the clavicles at inner two-thirds; dulness on percussion under left clavicle; over both lungs respiration short, and expiration a little longer than inspiration; respiration feeble over right side in front; inspiration harsh under left clavicle; behind, inspiration harsh at both bases, otherwise respiration feeble over both lungs behind; apex-beat of the heart diffused, prolonged, and displaced to the left. ℞. Hydrogen peroxide, 5 minims, t.i.d.

May 15th.—Cough and expectoration less; does not feel any better; the weather has been unfavorable, which probably has something to do with his feelings.

May 24th.—Cough, expectoration, and dyspnœa less; night-sweats less frequent; urine not increased; increase hydrogen peroxide to 10 minims.

June 9th.—Cough steadily improving; expectoration less; passes an increased amount of urine; dyspnœa about the same; feels much less nervous; increase the peroxide to q.i.d.

June 16th.—Improved the same as in last note.

CASE V.—Mrs. M. B——, aged thirty-three; October 25, 1888. Family history: Her mother had lung trouble, otherwise family history is good. Previous history: Has been subject to frequent colds; has had cough for six weeks; expectoration abundant, greenish or yellowish; spat blood four days ago; night-sweats occasionally; chilly feelings and fever now and then, but not periodically; appetite poor; bowels open usually more than once a day; gives specific history. Physical examination: Dulness under left clavicle; sibilant respiration more or less over both lungs, most marked on the right side in front, coarse râles at both bases behind. ℞. Hydrogen peroxide, glycerine, aqua, āā ℥ j. M. S.: 3 j., t.i.d.

November 1st.—Cough and expectoration less; is nervous; not less so since taking the medicine; sleeps better; appetite much improved; urine increased; has a good deal of pain in the side, but none since taking the medicine.

November 17th.—Decided improvement.

November 24th.—Cough, expectoration, and dyspnœa less; appetite better; feels better; passes more water than before; feels less nervous; no pain now.

December 4th.—Improving.

An analysis of 19 cases shows that 11 were chronic bronchitis, most of them with more or less extensive pleuritic adhesions; 5 were cases of emphysema; 1 was pleuritic adhesions with valvular disease of the heart, and 1 was of phthisis. The latter did not improve under the peroxide, nor subsequently under other forms of treatment. All the others showed improvement, except one case of chronic bronchitis. By improvement I mean that some of the symptoms improved, but not in all cases was there improvement in every particular. Some of the cases might almost be recorded as cured, so great was the improvement. Most of the cases were so chronic that permanent cure could not be expected under any circumstances.

The longest time any case was under treatment was nearly four and a half months; the shortest time, five days; the average time of treatment was thirty-one days. The cough was improved in all. The expectoration was decreased in amount in all except 2; and in 1 of these it remained the same, and in 1 was increased. All the cases, except 1, that were troubled with dyspnœa were re-

[1] Mat. Med., Nothnagel and Rossbach.

[2] Hatfield: Archives of Pediatrics, February, 1888; I. N. Love: Weekly Medical Review, February 25, 1888.

lieved, most of them very markedly. The amount of urine was increased sufficiently in 10 cases for the patients to notice it themselves; in 8 cases no increase was noticed. The appetite improved in 14 cases. In 14 the patients were less nervous—would not start as easily at slight noises—and slept better.

That the peroxide of hydrogen is a drug of some value seems probable. Although I have had no brilliant results in any of my cases, except, perhaps, in the case of whooping-cough, still, some of the cases have been benefited, more apparently by the peroxide than by other drugs. The diuretic effect has not yet received much attention, but that it is a diuretic of considerable power in increasing the amount of urine is undoubtedly a fact.

19 East Thirty-third Street.

## THE MECHANICAL TREATMENT OF DROP-WRIST AND ALLIED PARALYSIS, WITH PRESENTATION OF A CASE.[1]

By V. P. GIBNEY, M.D.,

NEW YORK.

A LITTLE over two years ago, while visiting Mr. Hugh Owen Thomas, of Liverpool, I saw a rather queer device on a case of lead paralysis. It was simply an apparatus to keep the hand hyper-extended to the fullest possible limit. Mr. Thomas showed this with much pride, saying that it was the best treatment he had ever seen for drop-wrist. The explanation was that the extensor muscles were fully rested, while the flexors, which had become contracted by position, were overstretched. The idea seemed a very good one, and in January, 1889, I had an opportunity of putting the hands of a patient up in this position.

She was thirty years of age, and was first taken sick in May, 1888. She thought that her sickness was due to drinking water after its long standing in pipes. There was no other explanation of her illness so far as we have been able to learn. Her symptoms were cramps in the stomach, followed by diarrhœa and vomiting. This condition of things lasted for about three weeks. A physician who was called to attend her this time gave her some medicine to control the diarrhœa and vomiting. A month later she began to experience a pricking sensation in both hands and feet, followed by numbness, with loss of power in the hands. She tells me that she was unable to hold a pen in the right hand while writing. During this whole time she had much pain in the stomach, with loss of appetite. All this occurred in the country.

She appeared at the New York Dispensary some time in the summer of 1888, and was told there by the physician who saw her case that it would require one year to get well. She continued there in treatment for four weeks, and, becoming discouraged, was admitted to Bellevue Hospital, and for the first time she was told that she had lead paralysis. She remained in the hospital six weeks, taking medicine three times a day, a double dose at night. She had, at the same time, electricity three times a week. At the end of this time her pains began to diminish, her general strength increased, but she does not admit that her wrist-drop was any better.

She was transferred to the Randall's Island Homœopathic Hospital a little later. She got a leave of absence one day, and came to see me on the 8th of January, 1889, when I found her with complete palsy of the extensor group of muscles, both wrists, but with considerable power to flex. I did not make any electrical examination, but proceeded at once to put her up in the apparatus which I show this evening. I secured the appliances with a solid plaster-of-Paris bandage, hands and fingers fully hyper-extended. She went back to the Island and was not received very favorably because of her helplessness. However, some one of the attendants fed her, and on the 8th of February, one month later, I removed the dressing for examination, finding the patient able to extend both hands to 180 degrees, but not able to hyper-extend any. I reapplied the bandage, and on the 19th of February it was found that the hand did not drop any except after a few minutes' attempt at extension.

After leaving Randall's Island Hospital, and while she was wearing the splint, that is, the latter part of February, she was admitted to the Presbyterian Hospital and remained four weeks, and was discharged because she insisted on keeping her plaster on. This was her own report. At all events, the splints were removed some time in March or April, and I did not see her again until the 22d of August, when the cure was complete. I saw her again on the 3d of October, and I do not discover any defect in her hands. She came then to return the springs, and to thank me for the relief she had obtained, and it was quite willingly that she came here this evening for your inspection.

I have for a long time been very fond of this method of treating external paralysis about the foot. I aim always to over-correct the deformity, and retain this position as long as I possibly can. I am at present employing this method in one or two hemiplegics who have drop-wrist and some spasm of the flexors, but am not prepared to report results. The plan commends itself, I think, on account of its simplicity, and the result in this special case, I think, is unquestionable.

[1] A paper read before the Practitioners' Society, October 4, 1889.

## Progress of Medical Science.

THE MOST RECENT ANTISEPTIC TREATMENT OF WOUNDS.—This subject has recently been again discussed in the *Centralblatt für Chirurgie*, and the methods of Von Bergmann, Mikulicz, and Schmid, described. From a résumé published in the October number of the *American Journal of the Medical Sciences*, we learn that Von Bergmann requires the patient to be thoroughly cleansed with soap in a warm bath, after which he is brought immediately to the operating-table, shaved, washed with alcohol, or with ether, if necessary; and, finally, the field of operation is washed with bichloride of mercury, 1 : 500, and surrounded with towels wet in the same solution. The operating-table is covered by a sterilized cloth. Operators and assistants cleanse their hands according to the method pursued in regard to the operative field. Everything which can come in contact with the patient—clothing, scrubbing-brush, etc.—is previously sterilized by superheated steam, except the sponges, which are washed in boiled water and soaked in bichloride solution. The instruments are sterilized by carbolic lotion. For ligatures and buried sutures sublimate catgut is used. For superficial sutures, sterilized silk is employed. Since the air of the ordinary clinic-room is rich in pathogenic organisms, the wound should be carefully protected during operation by sublimate compresses. Absolute hæmostasis is insisted upon, even slight oozing in connective tissue or bone-cavities being checked. The wound is then irrigated with 1 : 2,000 sublimate solution, dried by means of sterile gauze compresses, drained, closed, and dressed with sterile gauze containing no antiseptic, absorbent cotton, and a moss pillow. These dressings are sterilized by means of heat. If the wound is already infected, it should be opened freely, cleansed, drained and counter-drained, packed loosely with iodoform gauze, and dressed with sterilized gauze and the moss pillow. The superficial dressing is changed, but the packing is not disturbed unless it becomes wet and dripping. In that case it is removed and a drainage-tube substituted for it. After operations which leave the surgeon not quite sure as to the absence of infective matter in the tissues, or in case the bleeding has not been thoroughly checked, or where the wound is in a region difficult to keep germ-free, Von Bergmann com-

mands primary iodoform gauze tamponade with secondary suture. Finally, after resections and arthrectomies performed for the cure of tubercular arthritis, the wound should be treated with ten per cent. iodoform ether, and tamponed with iodoform gauze; the latter to be removed in two days and the wound sutured without providing for drainage. In contrast to Von Bergmann's treatment, Mikulicz commands, in many cases, Schede's method of obtaining healing (moist blood-clot). The ordinary chemical antiseptics are used. Sponges are discarded for wads of sublimate cotton wrapped in mull, and kept in sublimate lotion. During the operation the wound is washed out with sublimate solution every five minutes. All bleeding vessels are tied, the wound finally thoroughly irrigated, first with five per cent. carbolic solution, finally with the bichloride of mercury lotion, closed by relaxation sutures of silk or silver and a continuous catgut suture, and dressed with protective or gutta-percha tissue, ten per cent. iodoform gauze wrung out in five per cent. carbolic lotion, and a moss pillow. In two places a little space is allowed between the sutures so that any excess of blood can escape. If there is a cavity left at the operation which cannot be closed by approximation of the wound-surfaces, the space for the escape of blood must be left at the highest portion of the superficial incision. The bandage is usually not changed till the wound is entirely healed. After operation upon tubercular inflammations, Mikulicz recommends iodoform gauze, tamponade, and secondary suture. Of the one hundred and sixty major cases treated by this method, Mikulicz has lost only one. This patient died sixteen days after operation of consumption. In only three cases did pain and high temperature force him prematurely to change the dressing. Schmid completely closes his wounds immediately and discards drainage. Should symptoms denoting tension or suppuration appear, he removes the dressing, takes out a stitch, and opens the wound somewhat. The site of operation is covered for twelve hours with moist sublimate compresses, and is finally washed with ether and sublimate solution. In every pause of the operation the wound is covered by sublimate sponges. There is no irrigation and the minimum of sponging. Most careful attention is given to checking the bleeding, after which the wound is flushed with bichloride solution, dried, dusted lightly with iodoform, and approximated throughout its whole extent. A compression sponge is now applied, iodoform, mull, and a moss pillow. The dressing is completed by a pressure bandage very firmly applied, which can be loosened if painful in twenty-four hours. In wounds where pressure is not necessary, salicylated collodion painted over the skin sutures will prove a sufficient dressing. For infected wounds, Schmid advises free opening, drainage by means of iodoform gauze, and antiseptic poultices.

THE BEHAVIOR OF THE GERMS OF CHOLERA, TYPHOID FEVER, AND TUBERCULOSIS IN MILK, BUTTER, WHEY, AND CHEESE.—Among the numerous labors of the Reichsgesundheitsamt has been that of determining the behavior of certain germs of disease in various articles of food. Milk is one of the most common articles of diet, and one of the health-office collaborators, L. Heim, of Würzburg, has lately concluded a lengthened inquiry into the relations of the bacilli of tuberculosis, cholera, and typhoid fever to it, and its products, whey, butter, and cheese. That milk is a favorite medium for dissemination of disease is well known, and Koch, among others, has shown that it is peculiarly adapted for this purpose. As regards cholera, the germs of the disease were still viable after remaining for six days in milk that had undergone no antisepticizing processes; in milk of the same character that had been kept in the ice-chest, on the other hand, no living bacteria were found at the end of three days. This part of the inquiry shows that cholera bacteria remain active in fresh milk the whole length of time it is customary to keep it, and that they do not lose their dangerous quality for some days after the milk has become sour. The same germs were found active under some circumstances even at the end of a month. In ordinary strong cheese they did not retain their viability over a day, neither did they in unripe cheese. The bacilli of typhoid were alive and capable of development in milk at the end of thirty-five days, but no longer so at the end of forty-eight days; in butter they remained active between three and four weeks; in cheese only three days, and in whey only during the first day. Tubercle bacilli remained capable of development for ten days in fresh milk; in milk gradually undergoing decomposition they lost their power in a period varying between ten days and four weeks. In butter, on the other hand, they retained their full power at the end of four weeks; in whey and cheese after two weeks, but not after four weeks. The practical importance of the investigations is so obvious as scarcely to need pointing out, and their bearing on the use of milk, the preservation, carriage, preparation, and sale of it and its products is equally obvious. Something has been done, much remains to be done, to stop the ravages of disease, and the labors of Dr. Heim are another step forward.—Berlin Correspondence, *Medical Press.*

ŒDEMA OF THE BRAIN.—Professor Huguenin distinguishes two varieties of œdema of the brain—the inflammatory and the non-inflammatory. Inflammatory œdema, or diffuse encephalitis, is observed in perforating wounds of the skull with any kind of injuries to, or crushing of, the brain substance; in brain tumor, as soon as a central necrotic softening takes place in it and approaches the periphery; in abscess; in infectious diseases; and less often in hemorrhages and hemorrhagic infarct. As regards uninflammatory œdema, opinions have been at variance whether the peculiar arrangement of the circulation within the skull would permit of the exudation of sufficient serous fluid to produce a rapid and fatal pressure on the brain. As the result of his anatomical studies, the author takes the view that disturbances of the circulation in intracranial diseases can produce no fatal œdema as long as the vessels and the conditions within the skull are normal; but that these disturbances, for whose adjustment there are fully satisfactory arrangements under normal conditions, can produce fatal œdema, if previously existing changes are present in the skull or brain. These changes are, obliteration of the ports of exit for the lymph, moderate chronic pressure on the brain through contraction in the size of the skull, or, much more, through arrest of its development, diseases of the brain which produce a greater or lesser degree of pressure. Theoretical considerations would explain the so-called congestive œdema of the brain, *i.e.*, the effusion of serum under the membranes, into the brain, and into the ventricles, as being due to a hyperæmia of relaxation, as it is termed, of the vessels of the brain, so that more blood streams through them. At first this occurs with greater rapidity on account of the diminished resistance in smaller arteries; so that instead of the vessels bearing thirty per cent. and the surrounding parts seventy per cent. of the pressure, as in the normal condition, the vessel walls do not bear more than ten per cent., and the surrounding parts receive about ninety per cent. The pressure exerts itself against all distensible parts, such as the fontanelles and the vertebral ligaments, which yield as far as they are able. At the same time there is an increased efflux of the cerebro-spinal liquid through its normal channels, and this may serve to relieve the pressure. If, however, the tension of the blood-vessel walls diminishes, and the pressure of the cerebro-spinal liquid exceeds ninety per cent., this efflux is of no avail. The pressure becomes so great that compression of the capillaries takes place, and, thereby, a general ob struction to the circulation, with consequent stagnation of blood in the dilated arteries, and fall of pressure in the veins. The fluid constituents of the blood then leave the vessels, collect in the sub-pial space, brain, and ventricles, and the œdema of the brain is established. This supposition explains the congestive œdema which is said to be

common in children, and only rarely to occur in adults. Not in accord with this is the fact that children, unlike adults, have *two* arrangements for compensation—the fontanelles and the ligaments; and still less do those experiments accord, which show that even a very considerable increase of pressure, artificially produced, does not provoke œdema of the brain. As a result of his studies on his own cases, the author comes to the following conclusions: 1. Those children which were supposed to have died of hyperæmia of the brain, œdema, or slight hydrocephalus, were always found to have had a beginning meningitis, usually of an infectious nature, *i.e.*, a streptococcus meningitis. What, therefore, the author would formerly have regarded as a congestive œdema, he would now designate as streptococcus meningitis, more or less developed. 2. On the other hand, fatal œdema of the brain, of a congestive nature, does occur in children, but only under particular circumstances. The first of these is chronic meningitis, which produces obliteration of the channels of exit from the sub-pial space, and obliteration of the Paccionian granulations. In adults, also, chronic meningitis may play a similar *rôle*. The second factor in the production of fatal congestive œdema is present when a pressure on the brain is already in existence, which is, perhaps, already nearly as great as can be endured by the organ. If now any irritation produce a hyperæmia of relaxation, its action will be very rapid, since the brain possesses scarcely any further power to yield to pressure. To this class belong: 1. Fatal cases of œdema of the brain due to lack of power of the organ to expand; this being the result of a too early ossification of the sutures. 2. Fatal cases of œdema of the brain occurring after the intra-cranial space had already been diminished by some disease of the brain. Here belong three categories of affections: acute hemorrhage, tumor, and abscess in the inner parts of the brain, which have not yet produced a meningitis; finally, a traumatism of the brain not communicating with the atmosphere.—*The American Journal of the Medical Sciences*, October, 1889.

Œdema as a Diagnostic Sign in Carcinoma of the Stomach.—Dr. Baert, of Brussels, calls attention to the frequency with which œdema of the ankles is met with in cancer after it has lasted a few months—a diagnostic aid which is by no means new, but is, he thinks, in danger of being too much overlooked at the present day (*The Lancet*). He gives a number of cases recently occurring in the various hospitals in Brussels in which œdema was present. In one of these cases the œdema came on as early as three months after the first symptoms of the affection made their appearance; in two other cases it was noticed after four months; but in most of the other instances it was delayed till the lapse of from six months to a year after the onset. In one case, where there was no evident cause to which to attribute the loss of appetite and the wasting complained of by the patient, Professor Carpenter, noticing some œdema of the ankle, diagnosed carcinoma of the stomach, and found his diagnosis confirmed by the appearance a month afterward of all the usual signs of the affection. Several of the cases presented a marked increase in the nitrogen excreted in the urine. With regard to the deficiency or absence of hydrochloric acid in the stomach, in cancer of that organ, M. Baert admits that it is usual, but agrees with Wolff and Ewald in saying that this sign is by no means peculiar to cancer, as it is found in other gastric affections.

Syphilis of the Intestines.—Dr. Barié points out that little or no attention has been devoted to the study of syphilitic affections of the intestine, and he suggests that their supposed rarity may in reality be due to a lack of knowledge of the subject. He has collected a number of observations in which the subjects of syphilis, either hereditary or acquired, exhibited undoubted syphilitic lesions of one or other part of the intestines, sometimes simply enlargement of the Peyer's patches, more frequently, numerous ulcerated patches. He mentions more particularly the case of a woman, aged thirty-two, who was admitted into a hospital in a state of stupor, with a history of severe headache and general fatigue of a month's duration. The abdomen was tympanitic, painful on pressure, especially in the right iliac fossa. Profuse yellow fetid stools. Notwithstanding the typhoid symptoms no rash could be discovered. Coma supervened, followed by death. *Post-mortem* a number of ulcerations were found in the neighborhood of the cæcum, with irregular excavated borders, the base being a whitish-gray, and covered with purulent matters. Two other ulcers were discovered in the transverse colon, the sigmoid flexure, and the descending colon. The mesenteric glands were not appreciably enlarged. The diagnosis of the syphilitic origin of these ulcers was arrived at by a process of elimination. He points out that intestinal syphilis attacks the terminal portion of the small and the large intestine in preference, its effects being localized in the collections of lymphoid tissue. It produces ulcers with thickened borders, filled with a yellow puriform material, and all the coats of the gut are involved in the morbid process. Clinically, the affection gives rise to an obstinate and profuse diarrhœa, the stools being yellow, fetid, and, from time to time, sanguinolent. In some cases the diarrhœa brings about emaciation, cachexia, and death from exhaustion, but in others it takes on an acute form, and then markedly resembles typhoid fever. In the latter, the differential diagnosis is very difficult. Perforation, with consequent peritonitis, is a frequent complication.—*The London Medical Recorder.*

Treatment of Phthiriasis Pubis.— In one of the weekly meetings of the physicians of the St. Louis Hospital, Paris, the question of treatment for pediculi pubis was discussed. Dr. Besnier remarked that it is an easy matter to get rid of pediculi vestimenti, and even of lice in the head, while those which inhabit the pubic region are relatively difficult to destroy. An excellent method consists in giving a bath of an hour's duration, the water containing ten grammes of corrosive sublimate which has been dissolved in alcohol. The old-time frictions with mercurial ointment have been almost entirely abandoned, because of the irritant phenomena to which they may give rise. When gray ointment is employed it is best not to leave it upon the skin for more than two hours, for fear of producing an erythema, pustulation, and salivation. At the present time it is preferable to apply, morning and night for two or three days, a lotion containing corrosive sublimate dissolved in alcohol, in the strength of 1 to 200 or 1 to 300. The hairs are then to be washed with hot vinegar, and the nits, thus softened, are readily removed with a fine comb. It is furthermore necessary to exercise a close scrutiny for several days to prevent a recurrence. Dr. Hallopeau employs only frictions with camphorated alcohol for the cure of all forms of pediculi. In three days he thus secures a complete cure. Professor Fournier insists in his clinics upon the frequency of pediculi pubis in the lower classes, where their presence is almost always ignored, showing how little itching they occasion in the majority of cases. As soon, however, as we inform the patients of their condition they are, on the other hand, much annoyed by the itching. Another topical application in phthiriasis and in pruritus is phenic acid.—*Journal of Anatomy and Genito-Urinary Diseases*, September, 1889.

Spermine.—*Spermine* is an alkaloid found in testicular juice, in the gray matter of the brain, in eggs, oysters, lampreys, fish ova and milt, also in the products of all atonic mucous membranes. It also appears in the sputa of senile and acute bronchitis, in the expectoration of phthisis, and of emphysema with catarrh, and the spleen and circulation of anæmics and leucocythæmics. The *hydrochlorate of spermine*, in a dose of one-fortieth of a grain, injected subcutaneously in a dog of thirteen pounds, produced marked physical and mental activity, and powerful and prolonged stimulation of the genital system.—*Medical Age.*

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## THE HARD LOT OF THE ACTING ASSISTANT SURGEON.

THE Association of Acting Assistant Surgeons of the U. S. A., which was formed about a year ago, has as one of its main objects the bettering of the position of those who are now serving the Government in that capacity. The first step, of course, toward righting a wrong is to make the wrong known, and we think many of our readers will be astonished to learn what the duties are of the acting assistant surgeon in our army, and how his services are requited by the United States Government. It is safe to say that one would have to look far before finding a more poorly paid body of professional men than the fifty "contract surgeons" at present in the employ of the Government. Let us see for a moment what is required of the acting assistant surgeon and we shall then be in a position to judge whether the pay and honor that he receives are a sufficient recompense for his labors. We are indebted to Dr. W. Thornton Parker, of Newport, Recorder of the Association, for much information on this subject.

The requirements for admission to this branch of the service, if such it can be called, are sufficiently stringent to prevent any but competent physicians from obtaining an appointment. One must first apply to the Surgeon-General for an invitation to appear before a medical examining board. This request must be in the applicant's own handwriting, must contain a statement of his age and birthplace, and must be accompanied by testimonials as to his moral character. Next the physical qualifications of the candidate and his fitness to undergo any probable hardships of field service or exposure in any climate or at any season of the year must be rigidly tested by the board, and a favorable report will not be made in any case in which this is doubtful. The oral examination is in the branches taught in the common schools and the candidate must satisfy the board that he has a good knowledge of orthography, grammar, and the fundamental rules of arithmetic, including operations with fractions, and that he has a fair acquaintance with geography and history of the United States. His examination will not be continued further if he be found deficient in these branches. There is, further, an oral examination in anatomy, surgery, practice of medicine, obstetrics, and diseases of women and children, therapeutics, including tests and antidotes for poisons and the writing and compounding of extemporaneous prescriptions. One question each upon anatomy, surgery, practice of medicine, and obstetrics will also be given to the candidate in writing, and his written answers to the same are preserved as part of his record and transmitted to the Surgeon-General's office.

Appointments are made from among the successful candidates according to their standing in this examination.

After their appointment the acting assistant surgeons have the same duties to perform as those with commissions who enjoy the rank and pay of first-lieutenants, captains, and majors, but their standing and their position in the army are very different. Their pay is about one hundred dollars per month, and their rank is—nothing. In one respect they are worse off than the humblest employee of the Government, for they are not subject to the civil service rules, and are liable to dismissal at any time, without cause. A clerk in one of the departments at Washington is allowed a certain vacation every year, but an acting assistant surgeon in the army is paid only for actual service rendered. If he is incapacitated for work by sickness, contracted, it may be, in the discharge of his duty, his pay stops. Or if he feels the need of a brief rest, after several years of continuous service, he must take it at his own expense, and at the sacrifice of his salary for the entire period. But even this is not all. No matter how long he may have served his country his pay remains the same, and finally, when, broken down by age and long service, he finds himself obliged to give up work, he is let go without so much as a "thank you," and must henceforth shift for himself as best he can. And beyond and above all this material hardship, these men—cultivated professional gentlemen—are forced to submit to many indignities against which a self-respecting mechanic would rebel. But on this point we cannot dwell now, and will briefly consider the means by which it is hoped to ameliorate the lot of the contract surgeon.

The demands of the Association can certainly not be regarded as extravagant or unreasonable. As announced in a recently issued circular, it is proposed to present a "petition signed by the acting assistant surgeons, and endorsed by assistant surgeons, surgeons, and others who may favor the same, to the Military Committee of the next Congress, praying that acting assistant surgeons of the army (now serving), many of whom have served long and faithfully, performing all the professional duties of commissioned surgeons, and many of whom are past the age permitting them to apply for examination for commissions as first-lieutenants in the medical corps, be commissioned assistant surgeons, with the rank of second-lieutenant of cavalry, not to be in the line of promotion, the pay (that of second-lieutenant) not to be increased, and to be allowed forage for one horse; that at the expiration of the regular full term of service, or on account of disability, they be placed on the retired list of the army."

We have only one criticism to offer in regard to this proposed petition, and that is, that the Association is far too modest in its request to Congress. The rank and pay of a first-lieutenant would be none too much to ask for, and would probably be not much more difficult to obtain. The proposed petition is regarded with favor by many of the older officers of the army, and we hope that the Surgeon-General, whose endorsement would naturally carry much weight, will also, at the proper time, unite his

influence with that of others who are endeavoring to obtain this measure of justice for a most deserving body of physicians.

### WILL THE TIME EVER COME?

As we have read the remarkable work of Mr. Edward Bellamy, "Looking Backward," we have felt a certain pride that the chief spokesman is portrayed as a physician. We are not to infer that this was the chief idea of the writer in making this selection, but there is, nevertheless, conveyed a delicate compliment in the choice. We should feel a certain degree of disappointment did we believe the character of Dr. Leete to be purely an ideal one for the present age, for it is our firm conviction that some of the most noble men alive to-day are engaged in the practice of medicine. They may not be taking a prominent part in discussing social and industrial problems, but they come in contact with all sorts and conditions of men, and can make no small contribution to the data which form the basis of such discussions. It is no wonder, therefore, that Mr. Bellamy has chosen the medical calling as that one to be followed by his exponent of the ideas of one hundred years from to day.

It is very easy to follow out in imagination another chapter along this line of altruistic development. We can imagine Dr. Leete telling Mr. Julian West how hospitals, dispensaries, and medical societies were managed in the times in which he lived. There will be no code, for all men will be properly educated, and be gentlemen. With perfect confidence does the family practitioner refer his patient to the specialist, well knowing that the latter will send him back again, with diagnosis stated and a line of treatment suggested. There will be no rivalry to be appointed physicians to the new hospital, for each one chosen will offer to resign in favor of his unsuccessful competitor, and the only possible embarrassment will come from the excess of self-abnegation. The occupation of the consequential and patronizing hospital manager will be a lost art. Contributors to medical journals will never write on both sides of the paper, will *never* send their manuscripts rolled up, nor desire reprints and extra copies, and will wait their turn for publication. Their thoughts will be condensed, and their great aim will be to say as much as possible in the fewest number of words. As all men will be educated, and the private research of each be made public property, the opinion of the retiring, common-sense, professional neighbor will be as worthy of at least as courteous a reception as that of some unknown Herr Professor, with an unpronounceable name, from the middle of one of the southern provinces of Austria.

Also, physicians will be represented on the governing boards of what few medical charities may remain, for the new industrial system, with its consequent abolition of poverty, will render them entirely unnecessary. The dispensary "rounder" will rival the mound-builders as an effete historical curiosity. The "able-to-pay patient" will have been evoluted out of existence, and while the supply of clinical material may be disappointingly small to some of our great men, the comfort of the rank and file of the profession will be greatly enhanced. State examining boards will exist everywhere, and the so-called generous and unselfish rivalry between the few medical schools that are then needed will cease.

We will not enlarge on this theme, nor can we promise that the elixir vitæ, or, as our Western contemporaries call it, the Methuselah Cocktail, offers any prospect of our being enabled to live till the Golden Age.

But, seriously, when one comes to read Mr. Bellamy's book, he realizes how sadly the times are out of joint, so far as social and industrial questions are concerned. His illustration of the stage-coach in the opening chapter is grim, but most sorrowfully truthful. His Utopia does not seem by any means a purely imaginative one, though the very antipodes of the present age. "Looking Backward" should be read by every physician. It shows one's general social duty, regardless of his calling. It contains a warning for the thoughtless rich, and a promise for the unfortunate but honest poor. To every reader will it suggest new thoughts, and in everyone inspire new hopes, and loftier ambitions. The author's idea of "nationalism" may be chimerical, but his motive is praiseworthy.

### OUR ILLUSTRATION PLATE OF SMALL-POX.

In this issue we present a fourth of the series of eruptive diseases from Morrow's "Atlas of Skin Diseases." In the three figures we have presented the leading types of the variolous eruptions. As small-pox is, fortunately, not a common disease, but, unfortunately, a very contagious one, it becomes every practitioner to be on the alert for a correct diagnosis in the earlier stages, in order more particularly that the proper preventive measures may be taken against the spread of the malady. The plates should be studied in connection with a detailed account of the symptoms, which latter can be found in any of the text-books on practical medicine.

The figures in the plates show very truthfully and artistically the different degrees and varieties of efflorescence, viz., the papular and vesicular over the entire body, the umbilicated on the foot, and the confluent variety of the mature pustules on the face.

A careful inspection of these truthful and well-executed pictures cannot fail, we believe, to interest the large number of our readers who are apt during the season to meet with a case.

### COMPARATIVE VALUE OF ANTIPYRIN, ANTIFEBRIN, AND PHENACETIN.

While the regular and systematic use of antipyretic drugs in continued fevers is no longer to be considered a safe or wise practice, yet their employment in ephemeral fevers, in acute febrile attacks, heat-stroke, and very high temperatures in all conditions, is often stringently indicated. A study of the comparative value of antipyrin, antifebrin, and phenacetin, recently made by Surgeon-Major A. Crombie, of Calcutta (*The Practitioner*), gives us some facts of practical interest.

Dr. Crombie's observations are very clearly summarized as follows:

1. As regards efficacy, antipyrin comes first, and there is little to choose between antifebrin and phenacetin.

2. That as regards safety the advantage lies with phenacetin. A subnormal temperature never resulted from the use of that drug. Dr. Crombie had seen subnormal temperatures as the result of the use of antifebrin, but never collapse, which he had once seen from the use of antipyrin.

3. As regards rapidity of action, antipyrin, probably on account of its solubility, comes first, antifebrin second, phenacetin third. The fall after the use of phenacetin is more gradual, and the minimum is not reached for three, four, or even five hours after the administration of the drug.

4. As regards duration of effect the advantage lies with phenacetin.

5. As regards certainty of action, Dr. Crombie quotes them in the same order as that of rapidity—antipyrin, antifebrin, phenacetin. Phenacetin should be prescribed either in powder or in lozenges which are soft and friable.

6. As regards inconveniences, in the climate of India phenacetin is followed by just as profuse sweating as either antifebrin or antipyrin, and this, to his mind, is the great drawback in the use of antipyretics, patients having to change their clothing once or twice in a night after the use of any of these drugs. Whether or not an antipyretic will yet be found which will be capable of safely reducing abnormal temperature without causing profuse perspiration remains to be seen, but as yet we do not possess one.

Dr. Crombie adds that there is one peculiarity which phenacetin does not share with the other antipyretics. He alludes to a soothing and soporific effect which it undoubtedly possesses, so much so that in cases of slight feverishness accompanied by insomnia and great restlessness small doses of three or four grains of phenacetin, not sufficient, in India at least, to produce perceptible diaphoresis, insure a quiet, peaceful, and sleepful night, with no headache in the morning.

In conclusion, he says that in heat apoplexy, sunstroke, and hyperpyrexia generally, antipyrin is indicated. In temperatures of 103° to 105° antifebrin or phenacetin, in temperatures below 103° the preference should be given to phenacetin.

## News of the Week.

An Important Precedent for the Association of American Physicians and Surgeons.—Dr. C. H. Mastin, of Mobile, in declining the office of president of this association, at the recent meeting of the executive committee, expressed the opinion that someone not a member of the committee should be selected for this high office. For obvious reasons this is a valuable precedent, and is fittingly set by one who is an illustrious example of Southern chivalry and modesty.

Woman's Hospital of the State of New York.—Drs. Horace T. Hanks and Bache Emmet have been unanimously appointed as Visiting Surgeons to fill the vacancies occasioned by the death of Dr. James B. Hunter and the resignation of Dr. Charles Carroll Lee.

Ohio State Sanitary Association.—The seventh annual meeting will be held in the hall of the Young Men's Christian Association, Dayton, O, November 21 and 22, 1889.

Medical Legislators.—Of the 557 members returned at the recent general elections to serve in the French Chamber of Deputies, 48 are doctors of medicine, 4 are druggists, 1 is a dentist, and 1 a veterinarian.

A New Disease—Confectioners' Fingers.—Dr. Rodriguez Mendez, Professor of Hygiene in the Medical Faculty of Barcelona, has just published in a new Spanish journal, *La Medicina Prdctica*, some notes of a case of a peculiar affection of the fingers and nails which appears to have been due to the patient's trade, that of a confectioner (*The Lancet*). Poncet, of Paris, and Albertin, of Lyons, have also observed the existence of this affection among those who are engaged in the calling of a confec tioner. Dr. Mendez's patient was a man about forty years of age. His trouble was a combination of onychia and paronychia, caused by immersing the hand in hot and cold syrups.

Rich Men's Dispensaries.—The Johns Hopkins Hospital is found to be a not unmixed blessing to the medical profession of Baltimore. The *Maryland Medical Journal* says that, in the last six months, five thousand dispensary patients have been treated there, and that these consist largely of persons who used to go to a physician. Much the same kind of story is told by physicians of this city, regarding the Vanderbilt and the Presbyterian Dispensaries.

New York Neurological Society.—The commission appointed two and a half years ago to investigate the relation between disturbances of the ocular muscles and functional nervous diseases will make its report at the stated meeting on Tuesday next at the Academy of Medicine.

Civil Service Reform.—It is well known that the state of civil service reform in New York is not what its friends could wish it to be; and that it would be well if some clear presentment of the facts were made by those who have had occasion to know best as to the details and as to abuses—in the interests of better sanitation. It looks as if the only answer to the question was, "What are you going to do about it?"

An Interviewer in the Guise of a Patient.—A young woman, a reporter on a sensational daily paper of this city, paid a visit to a number of physicians recently in the guise of a patient suffering from headache. Every detail of her various interviews, the diagnosis made, prescriptions and advice given, and fees charged, were subsequently written out and published in a most sensational way. The differences in diagnosis and advice were considerable and were made to appear rather ridiculous, as might easily be done by a person presenting only a subjective symptom. The performance, we think, was a great piece of impertinence and one in which reputable journals or journalists would not be concerned. The physician is under bonds to respect the confidence of his patients and the obligation is almost as great that the patient should not go and gabble to the public personal items regarding the physician.

Death of Dr. Moses D. Carbee.—At Haverhill, N. H., October 23d, of diphtheria contracted in practice, Moses D. Carbee, M.D., aged forty-two years. Dr. Carbee was graduated from the University of Vermont in 1873, and for fifteen years had been honored and loved in Haverhill and the surrounding country as a skilful and faithful physician, and an unfailingly kind and sympathetic friend.

Dr. Pietro Laura, one of the leading physicians of Italy, died recently at Genoa in the seventieth year of his age.

THE STRING IS PULLED AND THE BAND STOPS ITS PLAY.—The physicians of the Eastern Dispensary, having been much annoyed during their auscultatory practices by a neighboring museum band, have made an arrangement with the latter by means of a connected signal-bell to stop the music during chest examinations. Statistics show, however, that the bell is rung but one and a half times daily. Our good brothers are evidently not quite up to their opportunities. How much the latter would be appreciated by their fellow-practitioners who could shut off the "little German band" by the pull of a string, or by allowing the patellar reflex a free play on the sidewalk.

THE LATE DR. JAMES B. HUNTER.—At a meeting of the Practitioners' Society of New York, October 4, 1889, it was *Resolved*, That the members of this Society express their deep regret at the sudden and untimely death of their late colleague, Dr. James B. Hunter. They recall the fact that he was one of the founders of the Society, that he was its first President, and always took an especial interest in the success of its work, to which he made practical and original contributions. Dr. Hunter was esteemed for his social qualities as well as for his eminence as a physician; and in his unfortunate death the members feel a sense of great personal bereavement.

W. T. BULL,
R. F. WEIR,
CHARLES L. DANA, } *Committee.*

PROFESSIONAL SERVICES OBLIGATORY.—A French court has recently decided that physicians are bound to give in good faith their professional services when solicited by those who represent the law.

AN EXCELLENT DRAWING by Albrecht Dürer was found lately in a medical book in a library at Zwickau. It represents a dying man sitting behind a stove and Death threatening to extinguish the light of life, while a female form personifying the Art of Healing approaches to save.

THE GERMAN IMPERIAL MINISTRY OF THE INTERIOR has made a grant of $20,000 toward the expenses of the International Medical Congress to be held in Berlin in 1890.

THE TRANSPORTATION OF DEAD BODIES.—The Association of Baggagemen, which recently met in Detroit, passed resolutions insisting that all bodies of persons dead from contagious diseases, held for transportation, must be properly prepared for shipment by being wrapped in sheets saturated with mercuric chloride and placed in metallic caskets, to prevent the spread of disease.

THE DOCTOR'S EARNINGS.—According to Dr. Jarvis' tables, the average of the lives of physicians is fifty-six years. If you begin practice at twenty-four, your active-life prospect will be thirty-two years, and from a thousand to fifteen hundred dollars will represent your average yearly income. Now, were you (through God's mercy) to practise these thirty-two years without losing a single day, and collect (say) eight dollars every day of the time, you would receive but $93,440. Deduct from that amount your expenses for yourself and your family, your horses, carriages, books, periodicals, and instruments; your taxes, insurance, and a multitude of other items for the whole thirty-two years (11,680 days), and then, so far from being rich . . . you would have but little, very little, left to support you after you naturally reach the down-hill of life, or are broken down in health and faculties deteriorated, and in need of a physician yourself, through worry, anxiety, and fatigue in the discharge of your duty.—DR. CATHELL, in last Edition of *Physician Himself*.

INOCULATING CANCER.—At a meeting of the Gesellschaft der Aerzte in Zurich, Dr. Hanau stated that he had succeeded in inoculating carcinoma from rat to rat. On November 28, 1888, he excised two pieces of a carcinomatous lymphatic gland from a female rat with malignant disease of the vulva, and transplanted these into the right half of the scrotum in two old male rats. One of the latter died on January 14, 1889. The necropsy revealed a generalized "carcinosis" of the peritoneum (including the great and small omentum). In the other, which was killed on January 25th, there were found two typical cancroid nodules (one 2.5 millimetres in diameter, the other the size of a pea) on the gubernaculum testis and the cauda of the epididymis. The transplanted malignant growths proved to have precisely the same structure as those which had spontaneously originated in the first animal. According to Dr. Hanau's theory, the cancroid infection should be attributed to the agency of live epithelial cells, and not to any pathogenic microbes. Another series of the author's experiments on the artificial production of cancer in rats by means of a prolonged local use of such irritant substances as tar, etc., gave negative results. The application caused an eczematous rash, with some infiltration of the corium, but no malignant disease.

A SIMPLE REMEDY FOR THRUSH AND SORDES, writes Dr. W. T. Ord in *The Lancet*, is equal parts of lotio nigra and glycerine mixed. He adds: "I attribute its action to the germicidal power of the mercury. The quantity used is so small as to be quite harmless. Another condition in which I have found the same lotion invaluable is in that of the sordes which collect so abundantly on the teeth, lips, and tongue in many cases of enteric fever. It cleans these parts as if by magic, and renders that unpleasant process known as "scraping the tongue" quite unnecessary. It may also with advantage be painted over the fauces, etc., in those unhealthy conditions of the throat which are so common in typhoid. I tried it in one case of catarrhal stomatitis, but it had no effect, whereas chlorate of potash effected an immediate cure. Also, in the sordes of advanced phthisis it seems to be of no use."

SOME REMARKS ON HYPNOTISM.—Dr. Hunter McGuire, of Richmond, ventured to criticise the subject of hypnotism in a letter to Dr. L. G. Pedigo (*Virginia Medical Monthly*). Dr. McGuire does not think much of hypnotism, and does not believe in it at all. He contributes the following profound historical comment on the subject: "It was practised many years ago by the early Greeks, from whom, probably, Mesmer took the idea. Under different names, it has over and over again been reproduced. It comes now as hypnotism. In a year or two it will again disappear, possibly to be revived in twenty or thirty years." Dr. McGuire is, we regret to say, much behind the medical knowledge of the day, for while criticisms on the therapeutic application of hypnotism are much needed, the validity and scientific importance of hypnotic phenomena are no longer to be questioned.

MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.—At the annual meeting, October 28, 1889, the report of the Comitia Minora contained the following: *Resolved*, That the Comitia Minora recommend to the Society that hereafter members two years or more in arrears of dues shall have their names omitted from the published list of the Society, and that while thus in arrears such members shall receive no notice of the Society's meetings nor its publications. *Resolved*, That such members be notified of these resolutions, at least one month before the publication of the directory. A motion to adopt the report with its recommendation was made. Dr. Piffard objected, saying that if a physician was a member of the Society it was not legal to drop his name from the published list. Having offered an amendment to the motion, he withdrew it, and accepted one offered by Dr. Fry, to the effect that that portion of the report containing the resolutions be stricken out. Dr. A. F. Currier, a member of the Comitia Minora, stated it was not the intention to leave out the names of those in arrears of dues from the published directory, but to place them in a separate list. Dr. Laurence Johnson and Dr. Daniel Lewis spoke of the trouble and expense connected with attempts to collect back dues from delinquent members, and of the injustice of their sharing equally in most respects the benefits of membership with those who had complied fully with the by-laws. Dr. Lewis said it was impractical to do as Dr. Piffard had suggested, to collect arrears of dues through action at law. Dr. Shultz thought it would be an insult to publish a separate list of members in arrears of dues. He inquired whether the provision made for publishing the directory would not permit of including in one list only the names of members who had fully complied with the by-laws, while the names of others should appear in the general list of registered physicians. The report, including its recommendations, was adopted. Dr. Piffard wished it to appear on the minutes that he questioned the legality of the proposed procedure. Dr. John S. Warren, the treasurer, read his report, which showed receipts for the year of $4,739.95; disbursements, $3,563.90; balance in the treasury, $1,176.05. It had been found correct by the Auditing Committee, and was accepted. At the election of officers, Drs. Crampton and Currier were appointed Tellers. Dr. L. Bolton Bangs having withdrawn as candidate for the presidency, there remained but one name for each of the following offices: For *President*, Dr. A. S. Hunter; *Vice-President*, Dr. J. Leonard Corning; *Secretary*, Dr. C. H. Avery; *Assistant Secretary*, Dr. W. E. Bullard; *Treasurer*, Dr. John S. Warren. Dr. Piffard was instructed to cast an affirmative ballot for the gentlemen named, which he did. The following Censors were elected: Drs. Daniel Lewis, George H. Fox, Laurence Johnson, N. G. McMaster, George A. Abbott. Names of delegates to the Medical Society of the State of New York are as follows: Drs. D. H. Goodwillie, William Stevens, Albert S. Newcomb, Frank B. Carpenter, Samuel Lloyd, Peter A. Callan, Ralph Waldo, Urban G. Hitchcock, William A. Dayton, Charles A. Powers, Willy Meyer, Henry D. Chapin, George R. Elliott, John Dorning, Seneca D. Powell, Robert T. Morris, Francis Valk, David D. Jennings, William C. Jarvis, Malcolm McLean, Egbert H. Grandin, William P. Northrup, R. C. M. Page, Robert B. Talbot. Dr. Daniel Lewis read the report, on the "Medical Directory," and said the expenses, which had been $1,145, would be fully covered by the receipts. He requested that members send any information which they might have of change of address, etc., especially of those not members of the Society. The report was accepted, with thanks to the editor for the faithful and painstaking manner in which he had brought out the edition. By unanimous consent the by-laws were suspended, and Dr. Julius Althaus, F.R.C.P., London, and Mr. Henry Morris, F.R.C.S., London, were nominated for honorary membership. Dr. J. Leonard Corning read the report of the Board of Censors, which also included that of the counsel, Mr. Purrington, regarding the prosecution of illegal practitioners. In eleven out of thirteen cases tried, convictions were obtained. The annual dues for the ensuing year will be three dollars. Dr. Richard Van Santvoord read the report of the Committee on Hygiene, which dealt chiefly with the condition of the public, private, and parochial schools. There was still overcrowding in many districts. The new buildings, however, were better arranged, from a sanitary point of view, than the old ones. Improvements had been made in many of the latter. Superintendents and teachers in the parochial and some private schools, and in Sunday-schools, were the most derelict in complying with sanitary laws. The Secretary read the report of the Committee on Ethics, which stated that but two complaints had been made; in one the parties complained of were not members of the Society; in the other sufficient cause for action had not been shown. Dr. E. H. Grandin read the report of Committee on Prize Essays, which stated that but one essay had been offered in competition. It did not fulfil the conditions requisite in regard to originality. Dr. O. B. Douglas stated that but one essay deemed worthy of the prize had been offered in twelve years. He moved that the Comitia Minora be instructed to consider the advisability of changing the conditions on which the prize was to be awarded. Dr. J. L. Corning thought it might with advantage be awarded the member who produced the best paper during the year. The motion was carried.

A HOSPITAL FOR LIBERIA.—Liberia, the colored republic on the west coast of Africa, founded by the American Colonization Society some forty years ago, is, according to Mrs. Jane Rose Roberts, wife of the late President Roberts of the young nation, utterly destitute of institutions in which her poor and sick people can be cared for. Mrs. Roberts has come to the United States for the purpose of presenting the facts in the case to the friends of Liberia. The hospital which is needed will cost $20,000, and Mrs. Roberts has thus far in hand $1,400, with $300 promised her by the American Colonization Society. The nearest hospital to Liberia is the one at Cape Palmas, about three hundred miles from Monrovia.—*Boston Medical and Surgical Journal.*

PROPOSED MEDICAL CONGRESS IN SPAIN.—A meeting was recently held in the rooms of the Spanish Medico-chirurgical Society, at Madrid, with the view of arranging an international medical congress, to be held at Madrid in 1890. Though the proposal received influential support, the general feeling was that it would not be desirable to organize a gathering which should in any way clash with the Congress at Berlin.

# Obituary.

## PROFESSOR ISAAC E. TAYLOR, M.D.,

NEW YORK.

THE venerable Professor Isaac E. Taylor, M.D., President of the Bellevue Hospital Medical College, died suddenly at his residence in this city, October 30th. He was born in Philadelphia, April 25, 1812, and graduated from Rutgers College, N. Y., in 1830, and received his degree of M.D. from the University of Pennsylvania in 1834. In 1835 he entered into mercantile business, but returned to his profession in 1839, settling in this city. In 1840 he visited Paris and entered the office of Professor Cazeaux, and returning to this city in 1841 he commenced practice by attaching himself to several dispensaries. In 1851 he was appointed visiting physician to Bellevue Hospital, and was connected with this institution in the capacities of attending and consulting physician until his death. He originated the idea of establishing a medical college in connection with Bellevue Hospital, and carried it out. He was made the President of the college at the start, and shortly after was named President for life. He was also Professor of Obstetrics there, and lectured regularly up to about eighteen months ago. He was a very active man, and looked sharply after the affairs of the college up to the time of his death. He was consulting physician for the Bellevue, Charity, Maternity, and Woman's Hospitals, and the New York Infirmary. He was a member of the Medical Society of the County of New York, the New York Pathological Society, Physicians' Mutual Aid Association, Society for the Relief of the Widows and Orphans of Medical Men, and the New York County Medical Association.

Dr. Taylor was, during his more active career, a constant and valued contributor to medical literature, and devised numerous original operations which bear his name. His clinical experience was very large, and his counsel was eagerly sought and greatly valued, more especially in his chosen field of obstetrical work. He was married in 1835, his wife dying in 1867, leaving one son and three daughters.

# Reviews and Notices of Books.

SYNOPSIS OF HUMAN ANATOMY. By JAMES K. YOUNG, M.D., Lecturer on Orthopedic Surgery, etc., University of Pennsylvania. 12mo, pp. 393. Philadelphia and London: F. A. Davis.

THIS is a very carefully prepared compend of anatomy, and will be useful to students for college or hospital examination It is condensed to the uttermost, and is calculated more for a review manual than for the beginner. There are some excellent tables in the work, particularly the one showing the origin, course, distribution and functions of the cranial nerves.

INDEX CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, U.S.A. Vol. X. 4to, pp. 1,059. Washington: Government Printing Office. 1889.

THIS volume, which is the tenth of this remarkable series, is of the usual large size, and includes 7,658 author-titles, representing 2,905 volumes and 7,282 pamphlets. It also includes 14,265 subject-titles of separate books and pamphlets, and 29,421 titles of articles in periodicals. The compiler, John S. Billings, U.S.A., has evidently done his best to keep the present volume up to the high standard of its predecessors.

TRANSACTIONS OF THE ASSOCIATION OF AMERICAN PHYSICIANS. Third Session. Vol. III. 8vo, pp. 404. Philadelphia: Printed for the Association. 1888.

THE Association of American Physicians, although in its infancy, has already made an enviable reputation for sound and progressive scientific work. No one will fail to appreciate this fact who peruses the admirably written papers which are collected in its three volumes. The present one contains the papers read at the meeting in Washington, September, 1888. Leading with the well-timed address of the president, Dr. W. H. Draper, we have the important topics of typhoid fever, Bright's disease, and cardiac affections treated from different points of view by the members, with here and there an interesting and anomalous case. It would be unjust to the distinguished gentlemen who contribute to this volume to make any distinction as to the respective merits of papers presented. Suffice it to say that all of the topics are discussed in a very satisfactory if not masterly manner. It is a pity, however, that so much valuable material is buried practically in a volume of "Transactions," which must necessarily have a limited field of usefulness.

A TREATISE ON SURGERY, ITS PRINCIPLES AND PRACTICE. By T. HOLMES, M.A. Cantab., Consulting Surgeon to the St. George's Hospital, etc., London. Fifth Edition. By T. PICKERING PICK, Surgeon to, and Lecturer on Surgery at St. George's Hospital, etc. 8vo, pp. 1,008. Philadelphia: Lea Brothers & Co. 1889.

THIS work, which has now arrived at its fifth edition, still maintains its position as a standard text-book on the principles and practice of surgery. Not many material alterations have been made, save in the direction to add to its value. The chapter on eye diseases has been wisely omitted as unnecessary, in view of the fact that special works on ophthalmology cover this ground more effectually and satisfactorily. Among the subjects which have had more especial and extensive emendation are those on diseases of the bones and joints, abdominal surgery, and intestinal obstruction, and the operative treatment in reference to cerebral localization. Mr. Pick has performed his part of the work with rare judgment and skill. The book contains many original illustrations which add much to its merits as a whole.

TRANSACTIONS OF THE NEW YORK STATE MEDICAL ASSOCIATION FOR THE YEAR 1888. Vol. V. Edited for the Association by ALFRED LUDLOW CARROLL, M.D. 8vo, pp. 610. Concord, N. H.: Republican Press Association. New York: J. H. Vail & Co. 1889.

THE "Transactions" from this society are always interesting, practical, and instructive. For an association now but five years old it has done an amount of good work unequalled by any other in that period, and is now fairly entitled to the first rank among State societies. The methods of carrying on its discussions are novel and admirable. Certain topics are selected, and certain leading men are assigned to discuss them from different stand-points. The results have been exceedingly gratifying in giving a practical turn to the solution of leading questions which could be taken in no other way. The notable features of the present volume are the "Address on Medicine; or, Medical New York in 1800," by Dr. John Shrady; the "Address on Surgery," by Dr. W. H. Carmalt, of Connecticut; the "Introductory Remarks on Tumors," by Dr. J. W. S. Gouley, of New York, with the exhaustive discussion following the same, and also the comprehensive and practical discussion on puerperal septicæmia. In typography the book is a model of its kind.

RECTAL AND ANAL SURGERY, WITH DESCRIPTION OF THE SECRET METHODS OF THE ITINERANT SPECIALISTS. By EDMUND ANDREWS, M.D., LL.D., Professor of Clinical Surgery, Chicago Medical College, and EDWARD WYLLYS ANDREWS, A.M., M.D. Second Edition. 8vo, pp. 137. Chicago: W. T. Keener. 1889.

THE second edition of this practical work has been revised and somewhat enlarged. It is an excellent work for the general practitioner, and contains much useful and well-digested information regarding the treatment of the commoner and more troublesome affections of the rectum and anus.

Fig. 1

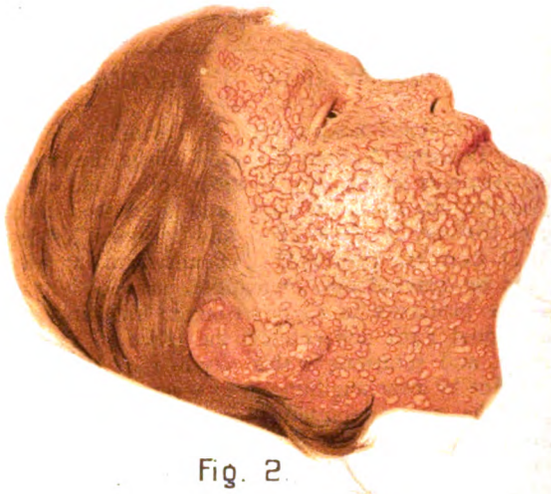

Fig. 2.

MEDICAL LIBRARY
OF THE
BOSTON CITY HOSPITAL.

Fig. 3.

## VARIOLA - SMALL POX.

From Dr. P. A. Morrow's Atlas of Venereal and Skin Diseases.

WILLIAM WOOD & COMPANY, Publishers, NEW YORK.

TRANSACTIONS OF THE AMERICAN SURGICAL ASSOCIATION. Vol. II. Edited by J. EWING MEARS. 8vo, pp. 225. Philadelphia: P. Blakiston, Son & Co. 1889.

THE present volume is much smaller than any of its predecessors, but is not proportionately better. It contains some excellent papers, however, among which may be mentioned "The Early Diagnosis of Malignant Growths," by Dr. J. Collins Warren, of Boston; "Hernia," by Dr. Claudius H. Mastin, of Mobile; "The Anti-tubercular Power of Iodoform," by Dr. Lewis S. Pilcher; "On Gunshot Wounds of the Intestines," by Dr. Theo. A. McGraw, of Detroit, Mich.; and "Distended Gall-bladder simulating Floating Kidney," by Dr. J. Ewing Mears, M.D., Philadelphia.

A HANDBOOK OF GENERAL PATHOLOGY. By DR. EDWIN KLEBS. Part Second. General Pathological Morphology. Pp. 836. Jena: Gustav Fischer. 1889. (*Die Allgemeine Pathologie.*)

IN none of its phases has pathology fairly recovered its equilibrium, since the powerful impetus was given to etiology by the discoveries of Koch and the formulation of a new bacteriological technique, less than a decade ago. It actually seemed for a time as if work in morphological and physiological pathology along the old lines was to be largely neglected, and the results of the older work insignificant in comparison with the new achievements which each day recorded in the fields of bacteriology. But we have learned a good deal in these few years, not only about what does, but about what does not, cause disease. We have learned that a great deal of exact and painstaking work is required to establish an etiological relationship between a given bacterium and the disease with which it is associated. And what is more to the point, we have learned that even when this etiological relationship is fully established, we have only just begun to solve the problems which a complete knowledge of its pathology demands. We are now far enough away from the glamor of the new light to be able to judge of proportion more accurately, and can now see that both the morphological and the physiological phases of pathology are rapidly advancing, although in a direction which has been considerably changed by the new bacterial discoveries and by the new technique. The older accumulations of knowledge in morphology, which are embodied largely in the works on pathological anatomy and histology, have undergone some revision in view of etiological researches, but barring the new additions, remain substantially the same. It is in general pathology that the results of recent work and discovery are most conspicuous. But general pathology is a theme which in this country secures very little special attention, either in the medical schools or among practising physicians. Falling in the colleges usually to the lot of the professor of practice, it cannot or does not, unless he be a competent pathologist, secure the attention which it intrinsically deserves. Glimpses here and there of the causes of disease and of the highly significant degenerative processes the student may indeed catch. The results of inflammations and the appearances and general phenomena of tumors he can become acquainted with in a desultory way. A knowledge of bacteriology as related to disease usually comes to him only in the most fragmentary way, and then frequently from a lecturer who, unfamiliar with its practical details and incapable therefore of deciding what are its just proportions, contents himself with an attitude not always simply of intelligent scepticism, but frequently of levity or downright hostility, or largely ignores the subject altogether. Laboratory instruction can do something, but when its practical work is done there still remains wanting, for the most part, that point of view which harmonizes and correlates the multitudes of facts and which comes from the study of general pathology. For students whose horizon is wide enough to reach beyond the limits of the final examination and the diploma, for medical men who are unfamiliar with all the bearings of the new discoveries on their previous knowledge, and for teachers who need a full exposition of our knowledge in a most intricate field, and references to the rapidly widening literature, the work of Klebs, on general pathology, will be most welcome. The first part of the work, which dealt with the causes of disease—"General Pathological Etiology, including Bacteriology"—appeared in 1887. The second part, comprising "General Pathological Morphology," and dealing at length with the degenerations, with inflammation, and with tumors, is now in our hands. This book, containing over eight hundred pages and numerous colored plates, shows like the first part, in all its details, that rich and varied practical experience, that broad and scholarly conception of his theme, and that enthusiasm for his work which those who know Professor Klebs as a writer, or personally as a teacher and investigator, would naturally expect. We must await the completion of the work by the issue of Part III., on "General Pathological Physiology," before an attempt is made to estimate its varied features in detail.

CYCLOPÆDIA OF THE DISEASES OF CHILDREN, MEDICAL AND SURGICAL. The Articles written specially for the Work by American, British, and Canadian Authors. Edited by JOHN M. KEATING, M.D. Vol. I. Illustrated. Philadelphia: J. B. Lippincott Co. 1889.

To those who have failed to keep note of the wonderful activity among the students of disease in infancy and childhood the appearance of a work such as the one before us will be a revelation. Here are four large octavo volumes, of over eight hundred pages each—the first, indeed, has very nearly one thousand pages—devoted exclusively to a study of the peculiarities of disease occurring in the young. It shows what progress medicine is making in our times, for, as Dr. Jacobi truly says in his introductory chapter, such a collection of monographs as are here presented could not have been written at the time when he began his professional life.

In a brief notice of this kind we cannot do more than indicate the contents of this first volume, any extended review of the individual articles being, of course, impossible. Even to set down the titles alone of these articles would take up much of the space allotted to notices of this sort, since there are forty-one separate monographs by nearly as many authors. The work opens with an introduction by Dr. A. Jacobi, of this city, in which are set forth the peculiarities of constitution of children, by reason of which disease occurring in them undergoes certain modifications of the type seen in the adult, and is therefore a sort of *apologia* for pædiatrics. In Part I. are considered general subjects, such as the anatomy of the child, nursery hygiene, the diseases of the fœtus, general diagnosis and therapeutics of infancy (the latter for some reason placed at the end of the volume instead of in its proper place), the pathology and hygiene of puberty, infant-feeding, etc. The Second Part is devoted to fevers and miasmatic diseases occurring in children It seems odd to read here an article on yellow fever, yet it is as justly entitled to consideration in a work of this kind as is typhoid fever or small-pox. The illustrations are numerous and of a high order of excellence.

In concluding this short notice we cannot refrain from congratulating the distinguished editor upon the happy inception of such a work as this, and we feel a measure of pride in thinking that the book is an American one. There are, it is true, several contributors from England, and their articles add not a little to the value of the book. But these are comparatively few; the editor is an American, the publishers are American, and the work itself is one which American medicine may justly claim as its own, and for which it has no cause to feel ashamed. It is at once an evidence of the progress made by students of pædiatrics in this country, and a foundation upon which these and other workers may build in the years to come. The book is valuable to every family practitioner, whose work is so largely among children and whose success in his profession will depend in great measure upon the skill with which he handles these miniature men and women.

THE LIFE REGISTER. London: West, Newman & Co. 1888.

THIS is a small book intended for recording the growth, health, etc., of children. The use of such registers is increasing, and their interest and value cannot be questioned.

LECTURES ON NERVOUS DISEASES. From the Stand point of Cerebral and Spinal Localization, and the Later Methods Employed in the Diagnosis and Treatment of these Affections. Pp. 778. By AMBROSE L. RANNEY, A.M., M.D. Philadelphia: F. A. Davis. 1888.

DR. RANNEY'S book consists of sections upon the anatomy and physiology of the nerve-centres; upon the clinical examination of patients; sections upon nervous diseases, and upon electricity in medicine, the latter section being made up chiefly of his already published treatise upon this subject.

The parts upon nervous diseases proper, and especially upon functional nervous diseases, will be found of most interest. The author entertains, as we believe, very exaggerated views as regards the influence of anomalies of the ocular muscles and of eye-strain, in producing nervous disorders. Those, however, who wish to know about and test these methods will find descriptions of the technique here. The chapter on Electricity is somewhat sanguine, but is on the whole a good one. We can hardly say as much regarding the anatomical part. The colored diagrams give picturesqueness to the pages, but the author seems at times to have sacrificed anatomical accuracy to chromatic effect. There is, however, much in this section also which will be found convenient and instructive.

SUGGESTIVE THERAPEUTICS. A Treatise on the Nature and Uses of Hypnotism. By H. BERNHEIM, M.D. Translated from the second and revised French edition, by CHRISTIAN A. HERTER, M.D. Pp. 420. New York and London: G. P. Putnam's Sons. 1889.

WE have already called attention to the work of Dr. Liebault and Professor Bernheim in the domain of mental hypnotism, and have affirmed our belief in the essential soundness of their views regarding this subject. Hypnotism has passed from the domain of empiricism and is now being made the object of careful scientific study. Its power in therapeutics is no longer questioned. Its practical usefulness and its safety as remedial measures remain still to be determined. The presentation in English of Bernheim's book will enable American readers to learn the views of scientific men who advocate the use of hypnotism by the physician, and they can themselves test and judge regarding it. We trust that no one will fail, in looking over this work, however, to read carefully the chapter on the dangers of hypnotism, which are there candidly stated. It will certainly make everyone feel that he cannot be too careful in applying it. Dr. Herter has made an excellent translation.

THE INSANE IN FOREIGN COUNTRIES. By WILLIAM P. LETCHWORTH. New York and London: G. P. Putnam's Sons. 1889.

MR. LETCHWORTH has written a most interesting book, not alone to physicians, but to all interested in the care of the insane. It contains the record of many months' careful study under most favorable conditions; and the pages are illustrated with cuts and photo-lithographs which put the volume almost on the plane of an *édition de luxe*.

A HANDBOOK OF THERAPEUTICS. By SIDNEY RINGER, M.D. Twelfth edition. Pp. 524. New York: William Wood & Co. 1889.

FEW therapeutical works are so rich in practical suggestions as this of Dr. Ringer, and no therapeutical author has been more extensively quoted or followed. Ringer's work is a classic, and its usefulness and popularity are attested by its numerous editions. A valuable feature of Dr. Ringer's work is the part devoted to general symptoms, regarded from a therapeutic point of view. The author also gives many practical hints and directions about other remedial agencies than drugs.

A TEXT-BOOK OF HUMAN PHYSIOLOGY. By AUSTIN FLINT, M.D., LL.D. With three hundred and sixteen figures in the text and two plates. Fourth edition, entirely rewritten. Pp. 872. New York: D. Appleton & Co. 1888.

AS stated on the title-page the present edition is entirely rewritten. By leaving out historical references and unnecessary discussions the work is, however, not increased in size. One new plate and sixty-one new figures have been introduced; and two plates and sixty-three figures left out.

An examination of the new work produces, on the whole, a most favorable impression. It is a good students' text-book, and no doubt will continue to merit its former well-deserved popularity.

TRAITÉ D'HYSTÉROTOMIE ET D'HYSTÉRECTOMIE PAR LA VOIE VAGINALE. Par le DR. LAURENT SECHEYRON. Précédé d'une Préface de M. PÉAN. Paris: Octave Doin. 1889.

A TREATISE ON HYSTEROTOMY AND HYSTERECTOMY BY THE VAGINAL METHOD. By DR. SECHEYRON. With a Preface by DR. PÉAN. Paris, 1889.

A STUDY of this bulky volume will strengthen an already widely accepted view, namely, that the vaginal method of extirpation of the uterus is the proper one for malignant disease of that organ. Péan does not employ sutures, using instead his well-known hæmostatic forceps to control all bleeding. The work before us contains, in the main, French statistics, and is interesting on that account to all those who wish to remain *au fait* of the special work done by the French in this branch of surgery.

SURGICAL BACTERIOLOGY. By NICHOLAS SENN, M.D., Ph.D., Professor of Principles of Surgery and Surgical Pathology, Rush Medical College, Chicago. 8vo, pp. 270. Philadelphia: Lea Brothers & Co. 1889.

THIS is a well-prepared *résumé* containing the essentials of our knowledge regarding the bacteria of surgical diseases. The compiler has selected his data with good judgment, and presents them in a clear and concise manner. As an introduction to the study of physical bacteriology the unpretentious little volume will serve a good purpose.

LEÇONS DE GYNÉCOLOGIE OPÉRATOIRE. Par VULLIET et LUTAUD. Paris: I. B. Baillière et Fils. 1889.

LESSONS IN OPERATIVE GYNECOLOGY. By DRS. VULLIET and LUTAUD. Paris, 1889.

DRS. VULLIET and LUTAUD have here collected a series of essays on many of the most important questions of modern gynecology. Several controversial matters are discussed in a spirit of fair criticism, and while no great amount of originality is displayed, the authors show that they have good judgment and a large experience. These essays will be read with interest by all who are interested in surgical gynecology.

LEÇONS DE CLINIQUE CHIRURGICALE PROFESSÉES A LA SALPÊTRIÈRE. Par O. TERRILLON. Paris: Octave Doin. 1889.

CLINICAL LECTURES ON SURGERY. Delivered at the Salpêtrière. By Professor Terrillon. Paris.

DR. TERRILLON is one of the leading surgeons of the French capital. Those who wish to familiarize themselves with the latest surgical tenets of the French school will do well to peruse those instructive class-room lectures. It will be seen from their study that modern surgery is international.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Regular Meeting, October 17, 1889.*

THE PRESIDENT, A. L. LOOMIS, M.D., IN THE CHAIR.

### GUNSHOT WOUNDS OF THE ABDOMEN, WITH SPECIAL REFERENCE TO WOUNDS OF THE INTESTINES.

DR. LEWIS A. STIMSON read the paper. It contained reference to the statistics of operative interference in cases of gunshot wounds of the abdomen prior to 1875; the cases were very few, the operation was very generally condemned, and had been performed only where there was positive evidence of intestinal perforation. Such cases dated from Boden's, in 1831. Since 1876 the cases operated upon in the Chambers Street, New York, and Roosevelt Hospitals showed a mortality of 81.2 per cent., while those not operated upon showed a mortality of sixty-five per cent. He added to the recent statistics three cases which had entered his hospital service, one of which was operated upon during his absence, by the house surgeon, and died; one of the others died, the other recovered. But no general rule could be laid down in favor of either interference or non-interference. The selection of cases in which to operate, however, was difficult. After general peritonitis or septicæmia had set in an operation would be likely only to hasten death, and reduce the percentage of recoveries from interference, and therefore should not be undertaken further than to establish drainage. When the ball had entered the abdominal cavity it was almost sure to have perforated some of the viscera, particularly if its direction were not oblique.

He offered objections to rectal injection of hydrogen gas for diagnostic purposes, pronouncing it distinctly inferior to exploratory incision in facility, efficiency, and security.

DR. JOHN A. WYETH thought the question of whether to operate or not was in almost as much doubt, notwithstanding further statistics, as it was nine years ago when Dr. Sims read a paper on the subject. He quoted the conclusions contained in that paper, as they appeared in THE MEDICAL RECORD, October 5, 1881, as expressing his views to-day. There could be no fixed rules regarding interference and non-interference; the surgeon would have to be guided by the condition of the patient, situation of the wound, direction and size of the missile. When the opening was small, the mucous membrane of the intestine might pout and prevent extravasation. After extravasation and the development of peritonitis the establishment of drainage was all that could be hoped for from operative interference.

DR. ROBERT ABBE had seen large perforations made by bullets of twenty-two calibre. Extravasation was less likely to take place if the perforation was near the mesenteric attachment than if on the other side, as he had observed in one case. If the patient were seen in time, an exploratory operation should be made. The absence of blood from the urine was not proof that the bladder or kidneys had not been injured. Immediate anastomosis should not be advocated, since to prolong the operation even some minutes might be the cause of a fatal termination. He also condemned injections of hydrogen gas for diagnostic purposes.

DR. WILLY MEYER had operated on a man who had a bullet-wound of the abdominal walls anteriorly. The bullet could be felt near the spinal column; he had hæmoptysis, and had also once vomited blood from the stomach. Yet at the operation the outer wall of the stomach near the cardia was found only to have been scratched by the bullet, the mucous membrane not being divided. The patient died after about fourteen hours, but no autopsy was obtained. In Vienna a patient was shot in the abdomen, did not vomit blood, recovered, had hæmatemesis after six months, died, and at the autopsy it was found that the bullet had passed through the stomach, making two perforations, which had healed but reopened, causing the hemorrhage. Dr. Meyer thought the technique of this form of abdominal surgery would improve, and that it would be safer for the patient to have the abdomen opened than left alone.

DR. B. F. CURTIS thought the statistics contained in the paper were unreliable, as being unfairly prejudicial to operative interference by able surgeons. They might make a better showing if the cases of bad operators could be ruled out. He was glad to see the operation when practised upon moribund patients condemned. Here drainage would effect all that could be hoped for.

DR. THOMAS MANLEY mentioned some points in a case which he saved by operation, and reported two years ago. More recently he had seen two other cases in which it was known that the lower part of the lungs was penetrated, but it was not positive that the stomach had been touched. One man recovered without an operation, the other died shortly from internal hemorrhage. Operative interference should not be delayed, not even on account of shock.

DR. STIMSON closed the discussion, and said one could not be guided by the size of the bullet in deciding whether to operate or not. Replying to Dr. Curtis, he said one operator could give one hundred as his percentage of recoveries, but he had had only one case.

Collective experience in these cases might be of advantage in determining when to operate, but improvement in technique would have to come from experience in general surgery.

### A PORTRAIT OF DR. HOWARD PINCKNEY

was presented by the family, and was accepted by the Academy with a vote of thanks to the donors.

## SECTION ON SURGERY.

*Stated Meeting, October 14, 1889.*

ROBERT ABBE, M.D., CHAIRMAN.

### PRESENTATION OF CASES.

DR. F. B. CURTIS presented a case of

### SUTURE OF THE DIVIDED FLEXOR TENDONS OF THE HANDS.

A young man, a year ago last July, sustained a wound of the left forearm by glass, dividing all the flexor tendons. The tendons were sutured immediately after the accident, and all healed by first intention excepting one, which sloughed and healed by granulation. A depression was left at the place of sloughing. The patient afterward had considerable power in the flexors, which had continued to increase, yet Dr. Curtis thought his condition might be improved by freeing the tendons from the cicatricial tissue which surrounded them.

THE CHAIRMAN thought the question of further repair was one of a great deal of interest. He saw no reason why the tendons might not be isolated where they were bound down by cicatricial tissue and allowed to take their place after separation in new cellular tissue, which would permit of free use.

DR. REGINALD SAYRE called attention to the case presented by Dr. A. M. Phelps last spring, in which a cut across the forearm had divided all the flexor tendons and these had united in a mass. Dr. Phelps afterward dissected them out, separated them, and allowed union to take place under blood-clot. He understood the result had been good.

DR. A. M. PHELPS said that motion in the hand in that case had been somewhat improved, but the result had not been as good as he had expected, and not as good as it had been in two other similar cases. He thought the man had used the hand a little too much; the result would have been better, he believed, had it been kept in the splint in the extended position five or six weeks, permitting of a little active motion once perhaps in two or three days.

EXCISION OF TUBERCULAR BODIES IN THE SHEATHS OF THE FLEXORS OF THE THUMB AND INDEX AND LITTLE FINGERS.

THE CHAIRMAN presented a woman on whom he had excised the sheath of the flexors of the thumb and index and little fingers because of the growth of melon-seed bodies, now recognized to be the result of tubercular inflammation. The case was interesting in connection with the question of secondary operations to free divided tendons. Notwithstanding complete removal of the sheath of the tendons in this case, and in other cases, freedom and power of motion had afterward been complete. The wound, of course, must be kept antiseptic, and primary union take place, without any pus. In his case only voluntary motion was resorted to; this was begun on the sixth day.

DR. CURTIS related the case of a girl who, last winter, had suffered from an attack of cellulitis in the hand. When he saw her she had entirely recovered, but the right forefinger was bound down by adhesions in the tendon at the metacarpo-phalangal joint. He laid back a flap, found the tendon and its sheath bound together in a mass of fibrous tissue, dissected them apart, put the finger in extension, closed the wound, kept up active motion, and had a result of normal power and motion.

HEALING UNDER BLOOD-CLOT FOLLOWING PARTIAL EXCISION OF BONES OF THE ANKLE.

DR. A. M. PHELPS presented a boy, about seven years of age, who had been submitted to excision of the astragalus for tubercular disease of the ankle-joint. The disease relapsed, other bones becoming involved, and a surgeon had condemned the case for amputation. The patient then came under Dr. Phelps' care, and he opened the joint, followed sinuses down to the bones, and scraped nearly all the bone out of the periosteal covering except in the cuneiform. After suitable dressing without ligation of the vessels, the Esmarch bandage was taken off and the cavities allowed to fill with blood. The dressing was not changed for three weeks; union was primary; at the end of five weeks the bones had become solid, there having been reproduction of the os calcis, cuboid, and scaphoid. There was very good motion of the ankle-joint, the child walking as well as he had ever done. The operation was done last May. A plaster-of-Paris dressing was worn some time after the fifth week.

EXSECTION OF THE ANCHYLOSED KNEE; UNION BY BLOOD-CLOT.

Dr. Phelps also presented an Italian girl who, when five years of age, had had extensive osteo-myelitis, involving apparently the entire tibia, fibula, and femur. The knee was anchylosed at a right angle. The patient had lain in bed five years. The question was debated whether to amputate or to exsect the knee. The latter method was adopted in November last, and it was Dr. Phelps' intention on cutting down upon the knee to perform Fenwick's operation, making the end of one bone concave and the other convex, but he found tubercular or fatty degeneration in the interior of the femur and tibia, and consequently scraped them out, leaving only the shell, which he coaptated in a straight line by wires, allowing the cavities to fill with blood. When the first dressing was changed, at the end of five weeks, the clots had organized and formed bony union.

DR. POWERS inquired of Dr. Phelps what histological changes took place in the reproduction of bone through blood-clot.

DR. PHELPS replied that the blood-clot itself was not supposed to organize, but that it acted as a framework for the growth of the cell-tissue which took place in it, constituting the normal elements in that particular locality. As the new tissue formed the blood-clot became absorbed.

DR. B. F. CURTIS read a paper (see p. 449) on

KNOTS, LIGATURES, AND SUTURES.

THE CHAIRMAN thought the paper showed in modern surgery a weeding-out process as regarded numerous methods formerly employed to accomplish the same objects. He thought this might be carried a little farther by dropping the hare-lip pin and excluding from the list of operations lumbar colotomy, its place being taken by inguinal colotomy. He had noticed that some operators, in tying a ligature around a bit of a bleeding vessel, dropped the forceps before making the second knot. He thought this was no more convenient than to leave the clamp on until the knot had been completed, and was somewhat unsafe, inasmuch as a bit of tissue dropped by the forceps might enter between the knots. In certain cases, as in wounds about the face, it was sometimes desirable to stuff the wound with iodoform gauze, take it out after twenty-four or forty-eight hours, and insert sutures. He had learned by experience to avoid giving the patient pain, if an anæsthetic was not given, by introducing the sutures at the time of the operation, and tightening them at the second dressing. The wound was sticky, and primary union took place with as narrow a cicatrix as usually took place when the sutures were tied in the first instance.

DR. REGINALD SAYRE believed the buried shoemaker's stitch had not been mentioned. It was very desirable in certain plastic operations.

DR. DAWBARN called attention to a way of obviating the tendency to a fold at the end of the continued suture, namely, by threading the needle at both ends and beginning in the middle of the wound. He also said that the surgical knot was not so likely to loosen before being tied the second time if the first portion were jammed in the angle of the wound by a sudden half-twist of the two suture ends. In gastrotomy it was surprising to observe how rapidly union took place by scratching the opposing peritoneal surfaces. He had recently used Abbe's catgut rings in a case of enterotomy, and although the patient died of shock, yet the rings were readily applied and gave great satisfaction.

THE CHAIRMAN having spoken of an apparent fracture at the end of a finger, consisting, probably, in rupture of the extensor tendon, which in one case he cut down upon and sutured, Dr. Gibney said he had seen similar cases, and had had opportunity in one to test hyperextension kept up long enough to cure the case. The Chairman thought Dr. Gibney's method, where it could be carried out, was preferable to suturing. Dr. Van Arsdale had cured one such case by a splint.

DR. A. J. MCCOSH read a paper giving a

REPORT OF A CASE OF NEPHRO-LITHOTOMY FOLLOWED BY NEPHRECTOMY.

The symptoms pointing to renal calculus had existed three years or longer, which various kinds of treatment had failed to relieve, until in July last he cut down through the lumbar muscles, and removed through kidney tissue proper a calculus which was felt in the pelvis of the organ. The stone weighed one hundred and twenty-two grains. The kidney was apparently little diseased, and no pus escaped. Two sutures were placed in the capsule, drawing the incision together. Pain ceased; the urine for a while contained blood; after a few days some pus escaped through the dressings, but at the end of three weeks the patient got out of bed, and was considered well, except for the granulating sinus in the loin. On the afternoon of the thirtieth day from the operation the patient complained of pain in the region of the kidney; passed some blood in the urine; the pulse increased. The symptoms continued next day; the sinus in the loin was broken up. The symptoms growing worse, the finger was pushed down, it was supposed, upon the kidney, reopening it apparently, for urine and blood discharged. The hemorrhage was controlled by iodoform gauze. The urine containing pus, on the fourth day the packing was removed, and it was

thought the hemorrhage from the wound would not recur, but it proved more profuse than on the previous day. It continued after the dressing, as indicated by the urine, and the next day, the thirty-fifth after the primary operation, it was determined to cut down and freely expose the kidney. The last rib had to be excised to permit of drawing the kidney well up into the wound. It was removed. It contained another small calculus. The edges of the previous wound were sloughing, and the whole organ was congested. Some hours after this operation there was complete suppression of urine, and the patient died within thirty-two hours in a state of coma. Dr. McCosh thought it probable that the nephrectomy would not have proven more successful had it been done on the afternoon of the thirtieth day.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*Stated Meeting, October 4, 1889.*

V. P. GIBNEY, M.D., PRESIDENT PRO TEM.

DR. V. P. GIBNEY read a communication (see p. 482) entitled,

### THE MECHANICAL TREATMENT OF DROP-WRIST AND ALLIED PARALYSIS.

DR. DANA said that the apparatus, if really of the value apparently shown, would be a most valuable addition to the therapeutics of this disease. In his experience wrist-drop from lead and pressure was the common form of the peripheral paralyses, among the working-classes at least, and it was sometimes very intractable to treatment. The history of Dr. Gibney's case seemed to show that the apparatus was of positive value.

DR. G. F. PEABODY, while ready to admit clinical demonstration of the value of the treatment, could hardly understand how the splint could secure such results by simple immobilization.

DR. GIBNEY thought that the modus operandi was by the entire rest it gave to the muscle.

DR. BRYANT thought the interesting question was whether rest of the wrist would cause recovery more quickly than if it were allowed to be exercised. The natural view was that in a case of paralysis of the muscles a certain amount of exercise promoted their recovery.

DR. GIBNEY also reported a case of

### SUPPURATIVE OSTEITIS OF THE KNEE-JOINT.

The patient I present this evening is one who was left me as a legacy in the Hospital for the Ruptured and Crippled in November, 1887. The boy had been for many years an inmate of the hospital, under treatment for hip disease. The active disease had long since expended itself, and there remained a high degree of deformity of the left hip, which I proceeded to treat by manual force under ether at different sittings, and finally employed the protection hip-splint which he now wears. The history of the right knee dates from September, 1888. The cause of the invasion of disease here has not been discovered. The substance of the notes taken from the hospital record is as follows:

September 8, 1888.—For the past week has complained of pain about the right knee, and for the past two days the pain has been very severe. The right knee is sharply flexed, and there is much reflex spasm. The hip functions are found to be perfect, but the normal contour of the knee has changed somewhat. There is no evidence of synovial distention, but there is considerable tenderness over the inner head of the tibia. A diagnosis of osteitis is made, and the knee is put up in plaster-of-Paris.

September 13th.—Knee found greatly swollen from distention of fluid, patella cannot be made to touch the inner condyloid space; has some cellulitis on the inner aspect of the knee. An aspiration into the joint relieves him of nearly two ounces of thickish serum.

On September 15th an incision made over the head of the tibia into an abscess, with evacuation of about an ounce of pus.

September 20th.—Has obtained some relief, but the sinus is still open.

By October 1st discharge was very profuse, boy suffering very much, and a bracketed splint is applied in order that the knee can be the better dressed.

October 5th.—His suffering has been very great. The synovial sac is much distended. The tenderness and soreness over the head of the tibia is such that no local applications give any relief. Under ether to-day an incision one and one-fourth inch in length is made over the inner head of the tibia, right side, and the bone in this locality is found to be quite extensively softened, the tissue being broken down so that the finger can be inserted well into the head. The parts are thoroughly scraped with a Volkmann's spoon, and all necrotic tissue thoroughly removed. The cavity is about one and one-half inch in depth. There was very little hemorrhage. Before completing the operation the whole cavity is cauterized with the tip of the Paquelin cautery, and after washing out with sublimate solution, is packed with iodoformized gauze, and dressed antiseptically throughout. The joint-cavity is not invaded by the operation, but a large needle of an aspirator is introduced, when about two ounces of serum is withdrawn containing a number of flocculi. The sac is then washed out with carbolic acid, 1 to 40, and the limb put up in a plaster-of-Paris bandage.

October 7th.—Patient is doing well, gauze is removed and found to contain very little discharge. Temperature yesterday evening was 101½° F.

November 7th.—His improvement has been uninterrupted, he has gained flesh, his intellect, which, by the way, was apparently much impaired before the operation, has become clearer. The special impairment of intellect was a moroseness, peevishness, with some muttering occasionally, which made us very anxious about the mental condition.

On December 5, 1888, the plaster-of-Paris is removed. Knee found in excellent condition, motion over an arc of from 15 to 20 degrees; no joint effusion; wound healed, no sinuses. From this time until March 16th there was nothing of special importance. We kept him in a wheeled chair for a long time, gradually left off all dressings from the limb, and on March 20th he was discharged with function of knee about perfect, able to walk about, and had not complained of any pain or inconvenience for two or three months. He was provided with a canvas knee-lacing as protection, and has been attending occasionally the out-patient department to have his hip-splint attended to.

October 2d.—I saw him in the out-patient department to-day and found his knee still in excellent condition, and it is as you see it this evening. His range of motion seems to be perfect, there is no synovitis present, and the cure is complete.

DR. BRYANT said he had only seen three cases where the knee-joint was implicated indirectly.

DR. SHRADY stated that, in cases of abscess of the head of the tibia, it was almost astonishing to know how closely the cartilage of incrustation could be invaded in an operation without extension of trouble to the knee-joint. In two cases which he had operated upon recently the partition was exceedingly thin, but no trouble followed the operation. In the majority of cases of extension of inflammatory processes which had come under his observation the route of involvement of the joint was more or less indirect, by burrowing underneath the cartilage, and around and through the ligamentous tissues surrounding the joint.

DR. JOSEPH D. BRYANT presented specimens removed in a case of

### STRANGULATED HERNIA.

The specimens presented were the omentum, which had been removed previously from an old and recently stran-

gulated entero-epiplocele, together with the sac, which was ligatured, cut off, and the wound treated by the open method for radical cure. The specimens were intended to illustrate the evil effects following persistent, continuous, and forcible taxis for forty minutes or so, with the patient under the effects of an anæsthetic. The omental contents, together with the sac, were inflamed to a degree giving rise to a capillary oozing from the newly formed vascularity of the continuous surfaces of the sac and its contents. Only the superficial layers (integument and two layers of superficial fasciæ) had escaped recent agglutination with the remaining agglutinated coverings of the hernial protrusion. Twenty-four hours after the taxis the patient's temperature had risen to 101½° F.; pulse, 96; the contiguous tissues were swollen, œdematous, tender, and somewhat painful. The operation for the open method of treatment was performed. At the end of four days the condition of the tissues was such, as the result of the vigorous taxis, that any other than the open method of treatment was deemed to be inexpedient, if not unsafe.

Dr. Shrady said that patients generally had a better chance when the operation was done at once than to trust to taxis, as ordinarily done by the general practitioner. He had seen more damage from injudicious resort to taxis than from any other source. He thought it ought to be the rule that if a well-qualified man cannot succeed in reducing the hernia under ether, the operation should be done before the patient was allowed to wake up. In other words, never attempt taxis, under ether, unless everything is prepared for an immediate operation.

Dr. Robinson inquired with regard to the old method of applying a rubber bandage in such cases.

Dr. Bryant said that in an irreducible hernia the rubber bandage might answer, but in strangulated hernia it would not.

Dr. Dana read a paper (see p. 478) entitled

ELECTRICAL INJURIES, WITH REPORTS OF SOME CASES.

Dr. Bryant said that he had only seen one case, and that, he thought, was one which Dr. Dana had already reported. The man suffered very severe surgical injuries of the hand, and the hand finally had to be amputated.

Dr. Herman M. Biggs said that, through the courtesy of the coroners' physicians, he had been invited to view the bodies of five persons who had been killed by shocks from the electric-light wires. In four of these autopsies had been performed.

The first case was that of a boy aged fifteen years who was killed in April, 1888. While passing along the street he grasped a broken telegraph wire which hung from an electric-light wire. He instantly fell to the ground with some convulsive movements, and when persons who saw him fall reached him he was dead. In this case there were no superficial burns. The accident occurred on a wet morning, just after a severe rain.

In April, 1888, a few days after the accident in the previous case occurred, a clerk grasped the support of a low hanging electric light on the Bowery, while he was standing on some iron doors leading to the cellar. He fell with some convulsive movement to the ground, dead. In this case there were some extensive burns of the thumb and index and middle fingers of the right hand. This accident also occurred on a wet day.

In May, 1888, a lineman while repairing wires on the second floor of a building on Murray street, lost his balance and grasped a supposed dead wire and was instantly killed. There were extensive burns of the hand and also burns over both knees, about two and a half inches in diameter. He was kneeling at the time of the accident on an iron window-casing. His trousers and drawers were burned through at the knees where they rested on the iron casing.

In the early part of the present year an engineer was found lying on the floor, dead, near a dynamo in the engine-house of one of the electric-light companies. There were no external injuries found on the body.

In September, 1889, the superintendent of an electric-light plant was killed instantly by coming in contact with an electric-light wire. There were severe burns found on the hands and on one arm in this case.

Autopsies were performed in the first four cases detailed above, and with the exception of the fourth case, in which no lesions of any kind were found, the changes in the viscera were practically the same and were briefly as follows: The blood was dark and fluid everywhere, the viscera were congested, especially the lungs, and there were petechial hemorrhages in the pleura, pericardium, and peritoneum. In one or two of the cases there were also some larger hemorrhages underneath the pleura. On many of the points of hemorrhage in the serous membranes there were delicate deposits of fibrin on the surface of the membrane.

Rigor mortis was well marked in all the cases.

Microscopical examination of the organs was not made, but examination of the blood did not reveal any morphological changes in the corpuscles.

Dr. Frederick Peterson stated that he did not believe any new or unknown disease had been introduced by the employment of dangerous electrical currents in various industries, for precisely the same disorders have been known to the profession as occurring from electricity in its natural form of lightning. Lightning produces shock of all degrees to the nervous system. As one-third of the people struck escape death, it is from disorders of the nervous system that these victims suffer, and these disorders are commonly functional in character. Among the most frequent neuroses, generally of a transient character, produced by lightning, are catalepsy, aphonia, deafness, blindness, tinnitis aurium, neuralgias, iridoplegia, and various paralyses and anæsthesias. One instance was that of an intermittent brachial monoplegia recurring at every storm. He cited the experiments with artificial lightning—discharges from Leyden jars—made upon lower animals by Richardson twenty years ago, and by Nothnagel nine years ago, in which varying degrees of anæsthesia and paralysis were produced, transitory in nature.

As to the pathology of electrothanasia, he had made autopsies upon a number of dogs at the Edison laboratory, after killing them with dynamo currents, and examined many tissues microscopically immediately after death, and some later, after hardening in Müller's fluid. In all the blood was dark and thin. Electricity has been shown experimentally to rob the blood of its oxygen; a shock sent through a test-tube of blood will darken it, while shaking in a jar of oxygen restores the redness. The blood and all the visceral tissues seemed normal under high magnification. He had examined microscopically lung, muscle, nerves, spinal cord, brain, etc., but found no changes. In two dogs there were capillary ectasies in the sheaths of the large leg-nerves through which the current had passed, and also in the spinal cord, with here and there extravasations of blood. The action of the current is probably both chemical and mechanical. Its mechanical force is expansive or explosive in its nature, thus accounting for the coarse lesions found often after death by lightning—perforation, amputation, etc. The following case had been referred to Dr. Birdsall and himself by Dr. M. D. Field for examination, and was a good example of the sort of neurosis produced by a shock from a commercial current.

August J——, aged twenty-five, Elevated Railroad employee, hitherto a very strong and healthy man, on August 13, 1889, about 11 A.M., while at work picked up a wire on the Elevated Railroad, which was probably dead, but enlivened by his moving it and bringing it into circuit with some other. He had a buzzing in his head, and instant muscular rigidity followed almost immediately by relaxation. He had evidently made a circuit by picking up the wire, and his tetanic spasm had broken it again. He felt momentarily unhurt, then fell in a heap and was conveyed

to hospital. In the ambulance he recovered consciousness, but was so drowsy at the hospital that they forcibly kept him awake. He was burned but very slightly. He was able to walk home unassisted at 6 P.M. the same day. For a week he had considerable muscular twitching, like chorea; suffered from insomnia, and when asleep would dream of touching the wire, getting a shock, and would then suddenly waken. There is no sign now of any organic disease about him. He is unable to work, however. He has pain in moving his eyes, but his eyes are normal. He walks in a stooping position, and says he cannot straighten up because of pain in his back. His muscles twitch occasionally, according to his account, and he has a slight tremor, and the knee jerks and wrist-jerks are exaggerated. He is troubled with headache, and his face has a somewnat anxious look. He evidently has sustained a profound shock to his nervous system, and his mind is much absorbed in the contemplation of his morbid condition and symptoms. His state is more than one of neurasthenia, and less than hypochondriasis. It evidently corresponds to the traumatic neuroses due to other kinds of shock, like railway-brain, railway-spine, etc.

He mentioned another case of a man in whom choreiform movements had developed after a severe shock from an electric-light wire.

DR. PEABODY reported a case of

HEMORRHAGE IN THE MIDDLE EAR IN FRACTURE OF THE BASE OF THE SKULL WITHOUT EXTERNAL SIGNS OF HEMORRHAGE.

The case which I have to narrate this evening relates to a fracture of the base of the skull, the line of fracture having passed through the petrous portion of the right temporal bone.

The patient presented none of the usual symptoms, such as hemorrhages and motor paralysis or spasm, and the diagnosis was rendered certain only by the use of the ear-speculum.

The patient, W. H.——, thirty-seven years of age, married, a native of the United States, was driver of a sweeping-machine by occupation.

He was admitted to Bellevue Hospital on September 25, 1889. He stated that the previous night, at midnight, while at work upon his machine, he became suddenly dizzy and fell to the ground, without, however, sustaining any severe injury or contusion. When he got up he was still dizzy and was suffering from a very severe pain in the head which was especially marked in the right parietal and occipital regions. It was of such severity as to prevent him from sleeping during the rest of the night. It had also prevented him from working or even attempting to work. When he was admitted to the hospital, late in the afternoon of the day following the injury, he complained of an exceedingly severe pain in his head, located where I have described it, and he was very deaf. He could be made to hear only by shouting very loudly in close proximity to him.

The house physician gave him the usual dose of antipyrine, and had him put to bed at once.

I saw him the following afternoon and found him suffering exactly as he had been when he entered the hospital. His tongue was heavily coated, his breath foul, and his bowels very constipated. He was still sure that he had sustained no violence in his fall; even in response to close questioning it could not be ascertained from him that his head had come into contact with anything harder than the brush of his sweeping-machine.

I ordered him a dose of calomel to move his bowels, and directed that fifteen grains of phenacetine be given for his headache.

The next day his bowels had moved, but his headache and deafness were unchanged.

As it had occurred to me several times in the autopsy room to find, in fractures of the petrous portion of the temporal which had given no evidence of their presence by bleeding upon the surface of the body, that there nevertheless had been hemorrhage into the middle ear sufficient to surround the ossicles with a clot of blood, I determined to use the ear-speculum in this case.

It is, of course, plain that to get bleeding from the ear in fracture of the skull we must have the fracture, with hemorrhage into the middle ear, *plus* a laceration of the membrana tympani. If the latter factor be not present, and the blood not sufficiently abundant to escape through the Eustrachian tube, it will remain shut up in the middle ear. I had seen this condition in several instances where the diagnosis had not been made until it was disclosed by the autopsy.

The use of the ear-speculum in this patient showed a small hemorrhage in the periphery of the membrana tympani arteriorly, and elsewhere in the periphery there was visible an abundance of venous blood on the inner aspect of the membrane. In the left ear the membrane was found to be thickened and white, presenting the appearance of pathological alterations of old date.

I at once had the man removed to the quietest corner of the ward, and put him upon large doses of sodium bromide.

On the same day he was visited by his companion in the street-sweeping work. This man said that the patient's tale was very different from the facts: that he had fallen to the ground with great violence, and had struck his head very forcibly against some of the iron of his sweeping-machine in front of the revolving brush, that he was entirely unconscious when he was lifted from the ground and had remained so for a considerable time, less than an hour, and that he was dazed and stupid and very difficult to arouse during the following night and day preceding his entrance to the hospital, and that he complained of nausea, and had vomited soon after the accident.

His subsequent history is very brief. He remained in the same condition as to pain in the head and deafness for nearly a week, although he was kept somewhat dull and stupid by full doses of the bromide. After this time the pain began to disappear, and with it his deafness rapidly improved. Two weeks after the accident the pain had disappeared entirely, but the deafness still continued quite marked, although much less so than it had been at first. The blood was still visible through the membrana tympani. At the date of preparation of this report of his case, one week after the meeting of the Society, he was so much improved that he insisted upon leaving the hospital and going to work, in spite of my advice to the contrary.

It seemed to me that the case was of some medico-chirurgical interest in view of the difficulties in the way of a positive diagnosis in such cases, and also in view of the very great importance of making the diagnosis as the only safe basis of prognosis and treatment in a condition which is always grave.

Dr. Peabody said, in reply to a question as to the degree of deafness, that it was very considerable; he could only converse with the patient by shouting.

DR. SEXTON thought that no very great deafness could arise from hemorrhage in the middle ear. He thought that the injury must have involved central parts other than the middle ear in order to cause a great degree of deafness.

DR. WALKER said that he had met with a case which resembled that of Dr. Peabody's, several years ago. He was called one day to see a boy, aged six or seven, who had fallen off from a high stoop, where he was playing with some other boys. He had struck on the back of his head, and was somewhat stunned. He had some cerebral symptoms, vomiting, and feeble pulse, so that he was led to examine for injury of the skull. He found the middle ear filled with blood, as shown by the congestion, and appearance of the tympanic membrane. It remained filled with blood for a period of fourteen days. Dr. Roosa saw him afterward. Finally he recovered. He had no external bleeding, no hemorrhage into the eye, into the orbital or nasal cavities, and the diagnosis of fracture of the base was made on the finding of blood in the middle ear.

Dr. Sexton said that, in rare cases, where there was thickening of the membrane of the drum, it would be pretty hard to tell whether there was blood in the middle ear. He thought it would sometimes be difficult to tell the presence of extravasations from some tumor that had existed there.

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## AMERICAN PUBLIC HEALTH ASSOCIATION.

*Seventeenth Annual Meeting, held at Brooklyn, N. Y., October 22, 23, 24, and 25, 1889.*

(Continued from p. 468.)

### Third Day, Thursday, October 24th—Morning Session.

President Johnson, of Chicago, took the chair at 9 A.M., and some business matters were attended to.

Dr. John S. Billings, U.S.A., discussed the paper on "The Prevention of Phthisis Pulmonalis," read on the preceding day. He argued in favor of the belief that the sputa of consumptive patients is the essential factor in communicating the disease. Not more than one case in ten thousand receives the infection through the breath. Greater precautions should be taken in the disposal of the expectorations of phthisical patients.

Dr. Albert M. Gihon, U.S.N., recommended the adoption of a resolution stating the sense of the Association to be that the destruction of the sputa is necessary to limit the spread of this disease.

Dr. R. Martin, Commissioner of Health, Milwaukee, Wis., read a paper on

#### THE DISPOSAL OF GARBAGE AT MILWAUKEE.

The subject of the various cremators was discussed, and those now in the market condemned as unsatisfactory and useless. Cremation as a system has had its day. Its claims have been exaggerated, and speculations given as facts. The cremator used in Milwaukee for twenty months, doing the entire work of the city, was found to be objectionable. The system now in use there is the Merz System, which gives satisfaction. It has been used constantly since June 11th. The quantity of garbage daily collected and disposed of is now fifty tons. The collecting carts drive up a covered roadway to the second story of the building, and the garbage is thrown on the floor and scraped into driers. Eight to eleven hours are spent in drying and eight hours more in the extractors, where the oily matter is removed by benzine. When the bones are separated the process is complete, and a good fertilizer is the result. There is no odor about the building save in the room where the garbage is deposited, and there very slight.

Dr. S. S. Kilvington, Commissioner of Health, Minneapolis, Minn., followed with a paper giving

#### STATISTICS ON RIVER POLLUTION, WITH OBSERVATIONS RELATING TO THE DESTRUCTION OF GARBAGE AND REFUSE MATTER.

In the majority of cities the problem of the disposal of waste matter is practically unsolved. A circular letter was sent to health-officers in one hundred and seventy-five cities in the United States, and replies were returned by only sixty-six. Less than one-third of these showed the possession of any statistics regarding the quantity of waste materials disposed of per annum. A surprising indifference to the subject is shown in many directions. Health-officials in cities of one hundred thousand to five hundred thousand inhabitants "have not thought about it," or "have no opinion on the subject," or "have had no experience and entertain no views." We can no longer leave to nature the chemistry of our waste products without danger to ourselves. The practice of pollution of water-courses by the deposit therein of waste material is undesirable at best, and intolerable where rivers or lakes are used as sources of water-supply. In the Mississippi River, during the past year, eight cities alone deposited 152,675 tons of garbage and offal, 108,250 tons of night-soil, and 3,765 dead animals.

In the Ohio River, five cities in the same period dumped 46,700 tons of garbage, 21,157 tons of night-soil, and 5,100 dead animals. In the Missouri River, four cities cast 36,100 tons of garbage, 22,400 tons of night-soil, and 31,600 dead animals. No theory of self-purification of running water will serve to dwarf the magnitude of this sanitary crime. Earth-burial of waste materials in large quantities within or near large cities should also be condemned. Two methods remain which commend themselves to students of this matter.

1. Rapid decomposition of waste products by speedy withdrawal of the water and gases contained, with a view to converting them into profitable forms of fertilizer and machine oil.

2. Rapid and complete combustion, with a view to their entire destruction.

Rendering works have attempted the production of fertilizer by the former method. A scientific apparatus, known as the Merz System, is in operation in three or four cities. It is not yet proven to be a sanitary or economical solution of the problem. Cremation is the better way of destroying combustible materials, and sewage and night-soil should be deodorized, diluted, and used as a fertilizing agent. This method has been proved a practical success in many large cities. There were twenty-three, out of thirty-five health-officials written to, who indorsed the cremation system. Household cremation of animal and vegetable waste, by kitchen ranges and furnaces, is an economic and sanitary possibility.

Dr. G. C. Ashmun, of Cleveland, O., presented a resolution instructing the Executive Committee to secure, for the next meeting of the Association, a presentation of the causes and means for prevention of diphtheria. Another resolution requested the same committee to prepare a plan for uniform classification of vital statistics.

Professor W. O. Atwater, Director of Office of Experiment Stations, Department of Agriculture, Washington, made an address on

#### FOOD IN ITS RELATION TO HEALTH.

Charts were shown illustrating the nutritive value of different dietaries, and comparing the quantities of food consumed by various classes of people in the United States and Europe. Great injury results in this country from overeating, particularly of meats and sweetmeats. The standard of German physiologists is exceeded by nearly all classes here. Sedentary persons consume as much food as would be required for active muscular work. The system is taxed in excretion of the excess of food, and thus undermined and predisposed to disease.

#### DISCUSSION.

Dr. Jerome Walker thought that we all eat more than necessary, and gave some facts from the experience in his own family. He claimed that meat once a day was enough for any ordinary person. The practice of children consuming large amounts of crackers was condemned.

Edward Atkinson, of Boston, had gathered facts to show the size of the American man, by inquiries of dealers in ready-made clothing. From measurements of about two hundred million garments he learned that the average man is 5 feet 9 inches in height, measures 34 inches around the waist, and 36 inches, chest, and weighs between one hundred and fifty-five and one hundred and sixty pounds. In a similar way he learned that the Southerner had gained one and a half inch in waist-measurement since the war.

With regard to the disposal of refuse, Dr. Edward Clark, Health Officer of Buffalo, N. Y., spoke in favor of the extractive method, and said the Merz System had given great satisfaction in his city, where the method was first tried. Health-officers from numerous cities had inspected the works and approved them. A heat of 350° F. is obtained in the driers, and all disease-producing

germs are destroyed. Night-soil and sewage are not treated by the works in Buffalo.

MR. HENRY A. FLEISCHMAN, of Milwaukee, spoke of the economic side of the question. The larger the amount of garbage the greater the saving to the city by the Merz System. It has been adopted in eight cities, in some of which cremation had been tried and abandoned. The latter method may be sanitary but is wasteful. It is found by extraction that fifty-five per cent. of garbage is moisture and ten per cent. grease; the remaining thirty-five per cent is a useful fertilizer.

Drs. McDonald, of Missouri, Conn, of New Hampshire, Van Derbergh, of Buffalo, N. Y., Clough, of Denver, Col., and Gihon, of U. S. Navy, also discussed the subject.

DR. H. W. WELLS, Medical Inspector of the U. S. Army, called the attention of the Association to the Washington

MUSEUM OF HYGIENE.

He made brief mention of its history and work and invited inspection by the members willing to visit it.

The meeting adjourned, to meet at the Hoagland Laboratory of the Long Island Medical College in the afternoon.

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AFTERNOON SESSION.

DR. E. PLAYTER, of Ottawa, Canada, read a paper on the

PREVENTION OF TUBERCULOSIS IN MAN.

Among the predisposing and preventable causes of pulmonary tuberculosis, the most marked are: First, malformation of the body in gross configuration or minute structures; second, rebreathing of expired air, from lack of ventilation; third, defective and innutritious diet. Imperfectly developed chest and lungs are commonly noticed in civilized countries, but too little attention is paid to correction of these defects. In two hundred and fifty phthisical subjects, averaging 5 feet 5½ inches in height, the chest-measurement was only 31½ inches, instead of 37 inches, the proper circumference for that height. Suggestions were offered for exercising the lungs and chest-muscles as a prophylactic measure.

DR. P. H. KRETZSCHMAR, of Brooklyn, read a paper entitled

NOTES ON THE PREVENTION OF PULMONARY CONSUMPTION.

Efforts to prevent the development of this disease should be concentrated in two directions: First, to destroy, or lessen the number of tubercular bacilli floating in the air; and, second, to prevent the human organism from developing a disposition to acquire consumption.

I. Since total destruction of the deadly bacilli is hopeless, we must diminish their number. Isolation of patients has been tried a hundred years in Naples and Portugal without any marked diminution in the prevalence of the disease. Isolation of all consumptives, unless by international law, is infeasible as well as cruel. The teachings of Dr. Cornet, of Berlin, should be our guide. His experiments demonstrate that (1) the consumptive *per se* is not, but (2) the sputa are, the source of danger. It is of vital importance to destroy the bacilli in the expectorations as soon as possible. The spittoon should find more universal use. Carpets should be banished from homes of consumptives. A pocket-flask should be carried for use in place of the handkerchief, when spittoons cannot be found. Expectorations should never be swallowed, not only to avoid self-infection, but contamination of the fæces.

II. Rokitansky gives the characteristics of the "phthisical habitus" as a small heart in a chest of small antero-posterior diameter and long perpendicular dimensions, large lungs, and proportionately small abdominal cavity. The disposition to acquire the disease is oftenest found in the offspring of consumptive parents. The views of Dr. Brehmer, of Gœrbersdorf, are indorsed; viz., 1. If there are many children in a family, those born after the sixth are apt to develop consumption. 2. If several children in a family are born at short intervals, the younger are liable to develop the disease. 3. If the offspring of healthy parents, born under the above conditions, escape the disease, their children are apt to develop it. Patient and prolonged investigation leads to the belief that "only a small proportion of phthisical patients can be found who do not possess a family history which either demonstrates a directly inherited tendency, or a directly or indirectly acquired disposition toward the development of the disease." Of 506 cases at Dr. Brehmer's sanitarium, 184 (36 per cent.) were offspring of consumptive parents or grandparents; 147 (29 per cent.) had an acquired disposition, being from families where there were many children, or where the mother had children rapidly; 153 were children of parents who were born under the above conditions but had themselves escaped the disease. Dr. Brehmer's statistics have been verified in the experience of the writer. Certain functional or structural changes in young subjects indicate danger of future tubercular infection. They are: 1. Anatomical defects in the chest, which are a part of the "phthisical habitus." 2. The fact that the subject is a small feeder. 3. The fact that during the age of puberty the subject has suffered from palpitation of the heart. 4. The fact that at the same time, and frequently for years afterward, there has been epistaxis. Transfer of threatened subjects to a proper climate in a high altitude will save many lives. Out-of-door life is also advisable.

In the discussion which followed DR. HIBBERD, of Indiana, advocated the importance of proper clothing and the cultivation of a vigorous condition of general health to enable the system to withstand disease.

DR. PLAYTER opposed the theory of heredity of tubercular disease, and defended his belief in small lungs as predisposing to consumption.

DR. CYRUS EDSON, Chief Inspector of the New York City Health Department, read a paper on

DISINFECTION OF DWELLINGS BY SULPHUR DIOXIDE.

An extended experience in the use of this fumigant has led to the belief that it is a thorough and almost perfect destroyer of the infection of the acute exanthemata and diphtheria. The evidence, however, is mainly circumstantial. Statistics were quoted from the records of the department to show the non-recurrence of disease where premises had been fumigated by this agent.

DR. G. M. STERNBERG, of U. S. Army, sustained the position of the paper, and said that points of vaccine virus exposed to the fumes of sulphur dioxide had proved incapable of producing vaccinia, while some of the same virus not thus exposed had been efficient in the opposite arms of the same patients.

DR. RAYMOND, of Brooklyn, spoke of the importance of having the sulphur burned "in the presence of moisture," as recommended by the Committee of the Association on Disinfectants. Health-boards are not explicit in directing this. The purpose is not to prevent fire, and should not be used to wet walls or articles in the room, as that causes bleaching and corrosion by the acid formed. There are some reasons to doubt that all immunity from recurrence of the diseases is due to the fumigation; vaccination and other measures usually accompany the disinfection, and the same families are not so susceptible to a second infection, if they escape the first, as fresh subjects would be.

The subject was further discussed at some length by Drs. Bryce, Maxwell, Chapin, Van Derbergh, and Durgin.

A paper by DR. JOHN H. RAUCH, Secretary of the State Board of Health, Chicago, Ill., entitled "The Utilization and Purification of Sewage," was read by title only, as the author was absent, and the meeting adjourned.

EVENING SESSION.

REV. CHARLES R. TREAT, of New York, made an address (illustrated by numerous stereopticon views) on the subject of

SANITARY ENTOMBMENT.

After reviewing the practice of earth-burial in churchyards and cemeteries, and showing the injury to the health of residents adjoining such places, he spoke of the effect of the atmosphere upon corpses exposed in cold or dry climates, and compared the result obtained by embalming. A method of entombment on a large scale within a small area, by a sort of co-operative building plan, was then suggested. The bodies, enclosed in the apartments thus provided, would be subject to a constant current of desiccated air, to secure the same effect as that of the atmosphere in Arizona, Palermo, or Western Peru.

DR. BENJAMIN LEE, Secretary of the Pennsylvania State Board of Health, Philadelphia, read a paper on the question,

DO THE SANITARY INTERESTS OF THE UNITED STATES DEMAND THE ANNEXATION OF CUBA?

Among the reasons for an affirmative answer were the following: The constant communication between this country and Havana, which is a notorious breeding-place of yellow fever; the only means of eradicating the disease is a proper system of sewerage and drainage, which the Spanish Government is not likely ever to undertake; a single wide-spread epidemic of this disease in the United States would cost more than the purchase-money of Cuba; leprosy prevails to a serious and constantly increasing extent in Cuba, is absolutely unrestricted, and already has obtained a foothold in the ports of this country in closest communication with Cuba.

Following this paper, DR. PRINCE A. MORROW, of New York, gave a series of stereopticon views showing the different stages and varieties of leprosy.

DR. MAXWELL, of Florida, differed with the paper read on the expediency of annexing Cuba, on the ground that it is useless to attempt to prevent the entrance of a disease—yellow fever—which already exists in this country.

A paper on "Railway Sanitation," by DR. S. W. LATTA, of Trenton, N. J., was read by title, and will appear in the "Transactions" of the Association.

FOURTH DAY, FRIDAY, OCTOBER 25TH—MORNING SESSION.

The closing session of the Association began at 9 A.M., with announcements by the Executive Committee, through the Secretary, DR. I. A. WATSON. The resolutions already recorded were favorably reported and adopted.

A report from the Advisory Council was then received, and by its adoption the Association decided to hold the next meeting at Charleston, S. C., not earlier than November 1, 1890.

The following officers were elected, on one ballot, for the ensuing year: *President*—Dr. H. B. Baker, of Lansing, Mich. *First Vice-President*—Dr. Frederic Montizambert, of Quebec. *Second Vice-President*—Dr. Joseph H. Raymond, of Brooklyn. *Secretary*—Dr. Irving A. Watson, of Concord, N. H. *Treasurer*—Dr. J. B. Lindsley, of Nashville, Tenn. *Executive Committee*—Drs. L. F. Salomon, of New Orleans, La.; William Bailey, of Louisville, Ky.; H. B. Horlbeck, of Charleston, S. C.; Walter Wyman, of Washington, D. C.; J. F. Kennedy, of Des Moines, Ia.; P. H. Bryce, of Toronto, and the twelve ex-Presidents of the Association.

A new Advisory Council, composed of a member from each State and Province, was announced, and a resolution of thanks to the city officials, the New York Quarantine officer, the Local Committee, and others, was adopted.

D. E. SALMON, D.V.M., Chief of the Bureau of Animal Industry, Washington, read a paper on "The Necessity for a More Rigorous Inspection of Meat-producing Animals at the Time of Slaughter."

DR. A. M. GIHON, U. S. Navy, read a paper prepared by DR. R. O. BEARD, of Minneapolis, Minn., entitled

THE CAUSES OF INFANT MORTALITY.

They were classified as arising from the bacillus tuberculosis and from nutritional and nervous disorders. The prevention of infantile disorders would be greatly promoted by the education of the people in sanitary matters. One of the great mistakes of the present day was to regard infants' stomachs as of a different character from those of adults. The too frequent feeding of infants is a vice almost universally prevalent and quite generally countenanced, or actually encouraged by the profession. It is grounded in custom, as absurd as the incasement of Chinese infants' feet in permanent baby-shoes. It is intrenched behind that most dangerous of all arguments, among the ignorant, the argument from experience; while it is condemned by every careful observation of the lower orders of animal life, and by every physiological principle bearing upon infancy.

DR. JEROME WALKER, of Brooklyn, in discussing this paper, called attention to the agreement in the recommendations of the three papers on this subject read before the meeting, and thought the subject of infant-mortality might well be referred to a committee to collate statistics and report to the Association.

DR. J. H. RAYMOND concurred, and moved the appointment of such a committee with Dr. Walker as chairman. The matter was referred to the Executive Committee with power.

DR. G. C. ASHMUN, of Cleveland, O., said that no class of the community needed instruction more in regard to this matter than the medical profession.

DR. W. M. SMITH, of New York, said a more intelligent observation of death certificates by Boards of Health is needed. When practitioners attribute mortality to "debility," "marasmus," or "heart-failure" the certificates should be returned for correction.

Drs. Rohe, McDonald, Hibberd, and Jaynes also spoke on this subject.

Two papers by Edgar Richards, microscopist of the United States Treasury Department, upon "American Methods of Manufacturing Oleomargarine," and "The Oleomargarine Law of the United States," were read by title and ordered included in the proceedings of the Association.

## AMERICAN DERMATOLOGICAL ASSOCIATION.

*Thirteenth Annual Meeting, held at Boston, Mass., September 17, 18, and 19, 1889.*

(Continued from p. 471.)

SECOND DAY, WEDNESDAY, SEPTEMBER 18TH—MORNING SESSION.

DR. HARDAWAY, of St. Louis, read the first paper, entitled

LUPUS ERYTHEMATOSUS, ENDING IN DEATH.

The patient was a man, twenty-three years of age, whose lupus erythematosus of the face followed an eczema which had itself appeared subsequent to rhus-poisoning.

Improvement took place for a time under Klotz's plaster and a salicylic and sulphur ointment, but the lymphatic glands became implicated; the neck aumessd a board like hardness. The temperature reached 104.5 F., due, the reader thinks, to the adenitis. Suppuration took place in some of the glands, while gland after gland became involved in a tuberculous process. The patient died suddenly of pneumonia.

DR. TAYLOR was inclined to regard such a case as one of a subacute infective process.

DR. GREENOUGH said lupus erythematosus was undoubtedly present, but part of the dermatitis might be due to local irritants.

Dr. Taylor, of New York, read a paper entitled

A HITHERTO UNDESCRIBED FORM OF NEW-GROWTH OF THE VULVA.

The paper was based upon a long and careful observation of two cases in Charity Hospital. In one case the growth was subsequent to chancroids, and its nature was benign and purely inflammatory, as shown by microscopical examination made by several careful pathologists. The author does not accept at all the views of those observers who regard these hypertrophic and ulcerative vulvar lesions as identical with lupus or the result of syphilis, or due to tuberculous infection, and thinks the term "esthiomene" should be discarded. He considers most of these non-malignant growths as simple hyperplasias of the tissues induced by irritations, inflammations, and traumatisms. Many cases are due to essential and specific syphilitic infiltrations. Others are caused by hard œdema, and still others by simple hyperplasia in old syphilitic subjects who suffer from chronic ulcerations of the vulva long after all specific lesions have departed. In healthy persons the same irritating causes might only result in vulvitis. Some rare cases are those of simple inflammation resulting from antecedent ulcerative and inflammatory conditions.

The surface of the new-growth which involved the perineum in these cases was of a maroon or chocolate color, and was either dry or gave rise to a scanty reddish serum. Both patients had died.

Dr. Bronson had seen one of the cases, which to him resembled an epithelioma. He could not regard it as simply inflammatory.

Dr. Heitzmann said the process was surely a malignant neoplasm, and he had decided after examination of the specimen that it was sarcomatous. Lack of ulceration, temporary cicatrization, flatness of tumor, and death, all pointed to sarcoma.

Dr. Robinson agreed with the last speaker.

Dr. Taylor in closing said he could vouch for the clinical features. The histological part of the examination had been conducted by men whose opinions he respected, still he should be glad to have anyone present examine all of his specimens, and to consider the diagnosis still *sub judice*. No evidences of metastatic growth had been observed.

SOME SUGGESTIONS IN DERMATOLOGICAL THERAPY

was the title of a paper by Dr. Sherwell, of Brooklyn, in which he first considered

A SIMPLE METHOD OF TREATING SCABIES,

which consisted in the application of dry powdered sulphur to the body as well as to the bedclothes. A mild oil may be rubbed over the skin beforehand. Eight cases were thus treated with good success.

ECZEMA ANI

was often found due not only to a slight fissure at the margin of the anus, but to one just within the sphincter. Hard-rubber bougies should be introduced each night and left for ten minutes.

ECZEMA AND SYCOSIS OF THE UPPER LIP

are very rebellious, and because of their great annoyance require careful treatment of the nose, upon the acrid secretions of which they usually depend.

It is probable, too, that the gases from an ozæna may also prove irritant.

Dr. Bulkley said these cases were very rebellious. He had not thought of the gases being sources of irritation, still they might be. In some cases we must go back of the local nasal affection to the systemic trouble on which that depends.

Dr. Zeisler said these cases were so chronic because complicated by a distinct disease of the roots of the hair. He looked upon the nasal catarrh as of myotic origin, and upon the affection of the lip and hairs as of direct infection.

Dr. Bulkley, of New York, read a paper entitled

WHAT REAL VALUE HAVE MINERAL WATERS IN THE TREATMENT OF THE SKIN?

which will appear in a future issue of The Record.

Dr. Hardaway had always been able to explain the benefit obtained at springs by other facts than the mineral ingredients.

Dr. Sherwell was glad to hear a voice raised against the harm done by springs in general, as now carried on. He had often seen their ill effects.

Dr. Graham spoke of the Preston Springs, in Canada, at which resort some of his patients with eczema had received marked benefit.

Dr. Bulkley said he had thought the Missisquoi Spring of Vermont of some benefit in cancer cases. The water contains a small amount of silica.

Dr. Heitzmann read a paper entitled

DERMATITIS PAPILLARIS.

As is well known, a slight irritation may cause a pseudo-keloid. After trauma exuberant outgrowths at times take place, and Kaposi has named such a condition of the scalp *dermatitis papillaris*. It is similar to myxo-fibroma. The Hebrew race appears to show a predisposition to this affection. The reader has recently had two cases under observation, both of this race. In one the lesions were the size of a pea and situated upon the chin, and in the second case the occiput and neck were affected. They are hard to the touch, raspberry-like, cicatricial tissue is present, and here and there bunches or tufts of hair difficult to extract. Hebra warned against operation. Kaposi advises the use of scissors or knife if the tumors grow up. Heroic treatment, the reader thought, should be avoided, and caustics only be applied in a gentle way, such as the solid stick of silver nitrate every two weeks. He had found a three per cent. alcoholic solution of salicylic acid most efficacious. Such cases are rare.

Dr. Fox said he had seen one of the cases reported. The size of the growths was decreased by electrolysis. They were subsequently removed by operation in Vienna, but returned with increased vigor. He had also treated a case on the occiput of a negro. He regarded it as the same affection as keloid, modified by location. All who spoke had observed cases of the affection, some preceded by sycosis, and some resembling keloidal growths.

Dr. Zeisler read some

CLINICAL NOTES ON SYCOSIS.

He had found little in literature regarding sycosis capillitii, in which here and there were little tufts of hair attended with itching, burning, and pain in the scalp. Two personal cases were reported in which epilation, sublimate lotion, and ammoniated mercury ointment at night had given good results. He had seen keloid in sycosis.

Dr. Robinson believed in a sycosis of the scalp, the lesions of which are isolated and the secretion serous. He thought the ground should be made unfavorable for the development of cocci by internal treatment.

Dr. Bulkley spoke of a follicular inflammation of the scalp in which a small scar resulted and caused a localized baldness. He regarded it as constitutional.

Dr. Denslow reported a case, seen during the year, in which deep-seated abscesses had existed for several years upon the scalp, and had regarded it as an acne. Large doses of ergot had good effect.

Dr. Klotz agreed with Dr. Robinson that pustules were secondary and not essential features.

Dr. Graham had seen the lesions of a sycosis disappear during a typhoid, and recur as soon as the patient was well, so he did not regard it wholly as a local disease.

Dr. Zeisler answered that we know in febrile disturbances scabies, eczema, and other skin eruptions disappear. We know that acne, eczema, and sycosis are distinct affections, but his two cases were so similiar to sycosis of the beard that he had named them as he did.

Dr. Sherwell read a paper entitled

RELAPSE OF PEMPHIGUS FOLIACEUS AFTER ELEVEN YEARS' QUIESCENCE.

The first attack was in 1877, the second in 1878, and the third during the present year. Bullæ gradually appeared, until nearly the whole body was covered. Subsequent dry scales formed, and made the case resemble a pityriasis rubra. The same author read a second paper on

IMPETIGO HERPETIFORMIS.

The patient had borne several children, and never had an eruption until three years ago, when vesicles formed upon the arms and legs, and soon became pustular. In the present attack nearly the whole body was implicated, and several relapses took place. When seen by the reader the lesions were impetiginous, and a grave prognosis was made. Improvement, however, took place, and furfuraceous desquamation followed. He believed it a similar process to Duhring's dermatitis herpetiformis. Hospitalism may have had something to do with the fatal result in the Vienna cases.

Dr. Heitzmann asked how this could be the same affection as Kaposi's impetigo herpetiformis, in which pustules from the first were necessary for a diagnosis if vesicles were observed early.

Dr. Zeisler referred to his published case, which was typical, and proved that the disease could occur here. He believed impetigo herpetiformis a disease *sui generis*.

Dr. Bulkley thought herpes gestationis distinct from this affection.

Dr. Robinson had seen the subject of the first paper, and it was surely pemphigus foliaceus.

Dr. Sherwell said that while all the lesions in his case of impetigo were not pustular from the first, some were.

ACNE CACHECTICORUM.

Dr. Bronson read a description of a case of rare eruption in a young boy. The lesions were papular, tubercular, and pustular, and occurred as grouped lesions, coming in successive crops on various parts of the body, the face, back, and nates being the regions most affected. The face about the eyes was very œdematous, and the patient's general condition was anæmic and below par. There were many deep-seated dermic abscesses, and pits like those of small-pox. Arsenical poisoning had been thought of, but excluded.

Dr. Morrow thought the case which he had seen recalled the features of arsenical poisoning.

Dr. Allen had also examined the patient, and, while agreeing in the diagnosis, had thought there might still be poisoning by arsenic as a basis.

The Secretary read a paper by Dr. Stelwagon on

THE ALLEGED TOLERANCE OF THE IODIDES IN LATE SYPHILIS.

The author is of the opinion that the tolerance is not more marked in syphilitic than in non-syphilitic patients. A number of cases were reported to illustrate how frequently the iodide is not well borne. His own experience corresponds to that of Haslund, that large doses could be given in psoriasis with an equal freedom from iodism to that seen in syphilis.

Dr. Taylor said that Wood's conclusions drawn from nervous cases were faulty. We are apt to give up the use of iodide too early because of a beginning coryza, while, if pushed, it would often be found well supported.

Dr. Greenough said that some patients will bear large doses when small ones will cause bad symptoms.

Dr. Denslow added his experience in one case of undoubted syphilis. The patient could not stand even the smallest dose.

Dr. Shepherd had found the iodide of ammonium better tolerated than the potassium salt.

Dr. Bulkley had found the conjoint administration of arsenic to increase the tolerance.

The next meeting will be held at Richfield Springs, September 2, 1890.

The officers elected for the ensuing year are: *President*—Dr. P. A. Morrow, of New York; *Vice President*—Dr. G. H. Tilden, of Boston; *Secretary*—Dr. G. T. Jackson, of New York. Two new members were elected: Dr. J. T. Bowen, of Boston, and Dr. C. W. Allen, of New York.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE FIRST OF OCTOBER—OPENING OF THE MEDICAL SCHOOLS—THE INTRODUCTORY LECTURES—THE SANITARY CONGRESS AT WORCESTER—ADDRESSES BY THE PRESIDENT AND DR. G. WILSON—PAPERS BY DR. TRIPE, MR. CASSAL, AND MR. WILLIS BUND.

London, October 2, 1889.

The first of October is a date noteworthy alike to the profession and the public. To the latter it marks the commencement of pheasant-shooting, while to members of our profession it signalizes the opening of the medical schools in London and the provinces (not in Scotland, where the winter session commences later). Few there are to whom the first of October is not a specially significant date. Even among those quite unconnected with any of the medical schools, it recalls the memory of early studies and struggles. Although much abused, the "introductory lecture" still survives at many schools, though what useful purpose it serves, or can serve, it would be difficult to say. At University College the introductory lecturer for the present year (Mr. Rickman J. Godlee) went so far as to say in his lecture that the custom of giving introductory addresses was laborious to the giver and useless to the student. At King's College the lecturer was Sir Albert Rollit, M.P. He referred to the progress made by the medical profession in recent years as regards their relationship to the State, but considered there was room for further improvement as to this. He thought the establishment of a local university for London, in addition to the existing university, would be of benefit. He also urged the importance of keeping logic in the foreground of their studies unless they went in for theology, when, happily, faith naturally supplanted logic. At St. Thomas's Hospital the address was given by Mr. William Anderson, Assistant-Surgeon to the hospital. It was chiefly devoted to an historical review of the progress of medicine and surgery in Europe, from the beginning of the sixteenth century to the present time. At St. Mary's Hospital Dr. Robert Maguire was the lecturer, and his lecture was devoted mainly to an account of the history of preventive inoculation. When once germs had been introduced into the body we could, he said, rarely control their action. To obtain full protection from their action the body must be rendered incapable of being attacked by the germs. In many cases protection was given by a former attack of the disease from which the animal had recovered, and the object of protective inoculations was to produce a similar result. M. Pasteur's work was discussed and criticised at some length. At the Middlesex Hospital Mr. Bland Sutton discoursed on "intellectual blindness." To illustrate blindness in observation, he mentioned a number of simple defects commonly overlooked by students. He also gave a brief account of cretinism and pointed out that, though occurring mainly in Alpine districts, it was now clear that cretins were born in this country, and that the disease was not confined to human beings but occurred also in calves and dogs. Dr. P. S. Abraham gave the lecture at the Westminster Hospital and dwelt upon the advantages of a careful training. He was of opinion that the medical curriculum should be extended to not less than five years

to give a man a chance of applying himself. At St. George's Hospital the address was given by Dr. Clifford Allbutt. At the remaining hospitals—Guy's, St. Bartholomew's, Charing Cross, and the London—there was no lecture.

The Sanitary Congress took place last week at Worcester, under the presidency of Mr. G. W. Hastings, M.P. In the presidential address various influences bearing upon public health were referred to. In speaking of the sanitary condition of houses and habitations, the necessity of proper appliances for the disposal of sewage was especially pointed out. Mr. Hastings said he was himself strongly in favor of placing the liquid sewage on the land directly. Associated with this subject was the necessity of looking after the construction of drains and sewers, and all the requisite appliances. Excellent work was being done by the Plumbers' Company, in London, by training and registering skilled workmen for the purpose. Another leading influence on health was that of occupation. Too many trades in this country tended to produce disease. The beautiful porcelain manufacture in Worcester still occasioned, in some instances, danger to the health of those engaged in it; but he was glad to say that a great deal had been done to lessen the danger. Inventors were continually at work in various occupations, not only to improve productions, but to improve health. One of the most remarkable of these was the new machine for bottle-making. Under the old plan of making bottles by blowing, the lungs of the workmen had been so much affected that their lives extended to not much more than thirty years in duration. With the new machine all blowing was done away with, and, as he had pointed out at Newcastle (in a discussion in the Mechanical Section of the British Association), there was no reason why the longevity of bottle-workers should not equal that of other artisans. The importance of preventing river pollution and of exercising sufficient control over dairies was dwelt on, and recent sanitary enactments referred to, among them being the bill rendering compulsory the notification of infectious diseases, which Mr. Hastings spoke of with approval.

An interesting address was given by Dr. G. Wilson on "The Policy of Prevention in Some of its Social Aspects," in which it was pointed out that an immense amount of disease was due to heredity, errors in diet, abuse of luxuries, overwork and worry, and other preventable causes. Dr. Wilson pointed out that, as to the first of these causes —heredity—in addition to the diseased offspring resulting from unhealthy parentage, multitudes of maimed and doomed children resulted from unsuitable or imprudent marriages, apart from diseased parentage. Unthriftiness in marriage too often led to intentional neglect of the children amounting to culpable homicide. It largely accounted for false thrift, under the name of infant life assurance, spreading its baneful influence even into innocent village communities. He doubted whether public opinion was advanced enough to enforce a certificate of health on the part of persons about to marry, but he thought some check should be put upon the appalling waste of infant life by prohibiting marriages unless the man could produce reasonable proof that he was in a position to maintain a wife.

Among the papers read at the Congress was one by Dr. Tripe, Medical Officer of Health for Hackney, on "Winds and their Sanitary Effect." A northeasterly wind, so much dreaded in this country in winter, passed over the northern portion of Russia, including Siberia, before reaching us, and was consequently cold and dry. It was frequently treacherous in summer, and caused colds. Easterly winds, which passed over part of Russia and Germany, were dry and biting, having the character of a land wind a little tempered by the German Ocean.

Mr. C. E. Cassal read a paper on "The Extension of Public Analysis," which led to some discussion. The view was expressed that the original adulterators of foods, being the great offenders, should be proceeded against, and not the humble shopkeepers, who were, in most cases, ignorant of the adulterated character of the goods which they sold. Mr. J. W. Willis Bund read a paper suggesting the establishment of a standard for effluents from sewage works. It was followed by a discussion in which attention was directed to the great extent to which fish are poisoned in our streams by sewage.

## OUR PARIS LETTER.

(From our Own Correspondent.)

CHLORALAMIDE—OBTAINING ATROPHY OF THE EYE BY OPERATION—THE RELATIVE ACTION OF THE IODIDES OF POTASH AND SODA—SACCHARIN A DISTURBER OF DIGESTION.

PARIS, October 11, 1889.

CHLORALAMIDE is the name of a substance recently introduced into therapeutics as a useful hypnotic. It consists of a combination of chloral and of formanide. It is obtained under the form of colorless crystals, soluble in about nine parts of water, or in one and a half of spirit. Numerous researches on animals and on man have been made, and it has been found that this new product produces sleep at a dose of from one to four grammes. The sleep is produced less rapidly than with chloral, but more quickly than with sulphonal, generally in half an hour, whereas it is induced in a quarter of an hour with chloral. No injurious action has been observed on the digestive tube, nor any consecutive and persistent troubles which are manifested after the employment of sulphonal. It is easily administered in powder, either in wafers or in wine or tea, three grammes of chloralamide corresponding with two grammes of the hydrate of chloral. When once sleep is induced, the effects last from six to eight hours. But no effect can be obtained in delirious patients or those which are very much excited. It succeeds, on the contrary, in subjects affected with insomnia after alcoholic excesses, and in neuropathic and hysterical subjects. Chloralamide presents, besides its little influence on the sanguineous pressure, that which permits it to be prescribed without danger to patients who are the subjects of organic affections of the heart, the advantage of not being disagreeable to take, nor does it give rise to any disagreeable sensation after waking from the sleep induced by it.

In the *Journal d'Oculistique* Dr. Fano proposes an operative expedient with the view of obtaining the atrophy of the eye, and substituting it for the extirpation of that organ. The operation consists in puncturing the vitreous body, which is followed by an abundant escape of the vitreous humor. This idea was suggested to him by the observation of what takes place after certain operations for cataract by extraction, in the course of which the hyaloid membrane is accidentally wounded. The rule, in the cases of this kind, even when the extraction ends favorably, is consecutive atrophy of the eye. The author submits the following case as an illustration: A young girl of seventeen, affected with a congenital buphthalmos of both eyes; one of these, the right, was injured by an instrument which pushed it outside the orbit, and produced at the same time a rupture of the blood-vessels of the superior eyelid and of the sub-conjunctival cellular tissue. Instead of proceeding immediately to the extirpation of the globe, he practised a large puncture of the cornea and of the part attached to the sclerotic. A certain quantity of the aqueous humor, followed by vitreous humor mixed with blood, escaped. At the end of three weeks the eye was atrophied, without the development of any inflammatory accidents. He subsequently had two occasions to put this mode of treatment into execution, and with equal success.

Professor Germain Sée has made a very important communication at the Academy of Medicine this week, on the relative action of the iodide of potassium and the iodide of sodium. The learned professor asserts that the action of these two salts is very different, the one from the other; the sodium acts neither on the heart nor on the blood-

vessels, whereas the potassium has a well-marked action on these organs. If one injects into the veins of a dog one gramme of the iodide of potassium, it is seen that this animal well supports this dose, and even three grammes may be injected without any bad effects. Far from being a poison, the iodide of potassium has a tonic action on the heart, which places it second only to digitalis and renders it useful in the treatment of the greater number of the affections of the heart; but in the nervous affections of that organ it is more injurious than useful. As regards the iodide of sodium, it has no action whatever on the heart, and cannot in consequence replace the iodide of potassium.

Dr. Fourrier, of Compiègne, writes that since it has been known that saccharin impedes the action of the digestive fermentations, and that clinical observation has shown that its ingestion was susceptible of troubling more or less profoundly the acts of digestion, it has been prohibited as a substance which may be employed for alimentary purposes. It has, however, remained a medicament, and according to the researches of Dr. Constantin Paul, it may be placed in the class of antiseptics. As such, Dr. Fourrier remarks that it was rational to try it in the treatment of aphthæ, and this has been fully confirmed by clinical experience. Dr. Fourrier treated ten cases of aphthæ consecutive to measles by painting the inside of the mouth with a solution of saccharin. Eight times the milky patches had disappeared in from twenty-four to thirty-six hours; twice only they resisted the treatment for three days, but this was attributed to the paintings not having been properly practised. The following is the solution employed by Dr. Fourrier: Saccharin, one gramme; alcohol, fifty grammes. A teaspoonful to be put into half a tumbler of water, with which the mouth should be painted five times a day. A more concentrated solution would be dangerous, as it would irritate the mouth, as shown by several cases which came under Dr. Fourrier's observation.

## Army News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 20 to October 26, 1889.*

WAKEMAN, WILLIAM J., Captain and Assistant Surgeon. Relieved from duty at Fort Walla Walla, Wash. Terr., and will report in person to the commanding officer, Fort Bidwell, Cal., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

DAVIS, WILLIAM B., Captain and Assistant Surgeon. Relieved from further duty at Fort Porter, N. Y., and will report in person, upon expiration of his present sick leave of absence, to the commanding officer, Fort Preble, Me., for duty. Par. 6, S. O. 248, A. G. O., October 24, 1889.

RAYMOND, HENRY I., First Lieutenant and Assistant Surgeon. Upon being relieved from duty at Fort Bidwell, Cal., will report in person to the commanding officer, Newport Barracks, Ky., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

SHANNON, WILLIAM C., Captain and Assistant Surgeon. Relieved from duty at Fort Yates, Dak., and will report in person to the commanding officer, Fort Apache, Ariz. Terr., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

CHAPIN, ALONZO R., Captain and Assistant Surgeon. Relieved from duty at Newport Barracks, Ky., and will report in person to the commanding officer, Fort Yates, Dak., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

MEARNS, EDGAR A., Captain and Assistant Surgeon. Granted leave of absence for two months. Par. 5, S. O. 244, A. G. O., October 19, 1889.

KENDALL, WILLIAM P., First Lieutenant and Assistant Surgeon. Leave of absence extended one month. Par. 6, S. O. 244, A. G. O., October 19, 1889.

CLENDENIN, PAUL, First Lieutenant and Assistant Surgeon. Relieved from duty at Fort McIntosh, Tex., and will report in person to the commanding officer, Camp Eagle Pass, Tex., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

EGAN, PETER R., Captain and Assistant Surgeon. On being relieved from duty at Camp Eagle Pass, Tex., will report in person to the commanding officer, Fort McIntosh, Tex., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

BRECHEMIN, LOUIS, Captain and Assistant Surgeon. So much of paragraph 2, S. O. 241, October 16, 1889, as directs him to report for duty at Fort Apache, Ariz. Terr., is revoked. He will report in person to the commanding officer, Presidio of San Francisco, Cal., for duty at that station. Par. 7, S. O. 248, A. G. O., October 24, 1889.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending October 26, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 50 | 14 |
| Scarlet fever | 40 | 5 |
| Cerebro-spinal meningitis | 0 | 1 |
| Measles | 41 | 2 |
| Diphtheria | 78 | 16 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

ABSURDITIES AND CRUELTIES OF WOMAN'S DRESS.—At the recent meeting of the British Association for the Advancement of Science Mrs. C. Stopes read an interesting paper on "Psychological, Physiological, and Physical Aspects of Dress." Mrs. Stopes confined herself to considering the attire of her own sex, many of the absurdities of which she denounced. The aim of dressmakers, she said, seemed to be to make women incapable of free motion or prompt action. Prompt physical action, in case of an emergency, was almost impossible to a woman, and by disuse her powers became injured. Long dresses gave rise to uncleanliness and the risk of receiving infection of various kinds from street dust swept up. The inequalities and disproportions of clothing were then dwelt upon, after which Mrs. Stopes pointed out the injury to health caused by using high heels. High heels were valuable only when walking up hill; a patent might be taken out for movable heels to be screwed on when ascending mountains. But the woman who wore high heels was perpetually walking down hill. The habit of wearing tight stays was an evil of national importance. If we heard of a government punishing malefactors by tight lacing we should cry shame on it for cruelty and demand the cessation of so horrible a punishment. Nature revenged herself, for none of the compressed organs could act healthily and freely.

COMPARATIVE OBSTETRICS.—A giraffe has been born in the Cincinnati Zoo, it being the first delivery of this kind that ever took place in this country. It is said to have been a head presentation and to have been a long labor, the baby being nearly six feet from tip to toe when dropped.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

MEDICAL LIBRARY OF THE BOSTON CITY HOSPITAL

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## Original Articles.

### THE TREATMENT OF HERNIA.[1]

BY JOSEPH D. BRYANT, M.D

NEW YORK.

CUSTOM, in this Association, declares in favor of a formal discussion of some special subject of general interest. Fate decreed that it fall to the lot of the reader to outline and open the discussion, also to indicate those who have so kindly consented to honor and to enlighten the occasion with their presence, and with the results of their labors. The treatment of hernia is the special subject that was submitted by "the powers that be," for our consideration, and now we—the writers—will submit the conclusions to your consideration, hoping that these conclusions will justify the previous action of the "powers," at least in some degree.

The subject, hernia, is an ancient one, and has associated with it the dust and traditions of the earliest times of medical and surgical matters. It can be safely assumed, I think, that the consideration of means of relief from this affliction was but a step behind the first occurrence of the affliction itself; and the age of the affliction is best measured by the length of the time of the establishment of the present relations of the abdominal contents and their walls with each other.

The first person who had the first hernia was the first one to contemplate means of relief from it, and no doubt soon learned to seek the same relief in the recumbent posture, and from manual pressure, that these measures afford to-day. The mechanical treatment of this affliction had its inception, no doubt, at about the time that the first unfortunate sufferer had succeeded, after much labor and pain, in reducing a strangulated viscus. He appreciated at once that the abdominal contents must be kept in their proper places; and he had, without doubt, noticed the fact that the recumbent posture met this requirement; but to remain lying was then, as now, neither wise, pleasant, nor remunerative. To retain the viscus in the proper place by manual pressure while in the erect posture, was recognized to lead to improvidence, to encourage impertinence, and to end in despair. It contemplated a too practical application of that good biblical maxim that teaches "Let not thy left hand know what thy right hand doeth." The use of bandages and soft compresses for the retention of hernial protrusions was recommended by Celsus, near the first century, and, too, cures were claimed by him to follow their use, especially in young children. Galen confirmed the treatment of Celsus, and, about five centuries later, Theodorus Ætius emphasized the method and the results. Pads of wood and of iron, held in position by a non-elastic soft girdle, were employed in Italy in the thirteenth century. In the fourteenth and fifteenth centuries, Bernard de Gordon and Gatanaria advised the use of an iron girdle, which, however, was soon exchanged for the hard-pad and soft-girdle appliance previously in use. In the sixteenth century, Fabricius Hildanus devised a truss of flexible soft iron, which could be moulded to fit the form of the patient. It is said that to Matthias Major belongs the credit of having first employed, in 1665, a truss with an elastic steel spring. The time at my disposal will not permit me to dwell at length on the further development made in hernial appliances. In fact, it is hardly necessary, since it is now only requisite to attach the hard pad of the thirteenth century to the elastic steel spring of the seventeenth, to form the substantial construction of the majority of the serviceable trusses of the nineteenth century. The greater number of medical men of the present day are blissfully ignorant of the truss armamentarium now in the market, also of the measurements, means, and method of fitting them properly to patients. The patients thus afflicted are relegated to the "instrument makers," or to other mechanical agents, for the proper truss and appliance, and the application of it. In a large number of cases, no doubt, this course on the part of the medical man is actuated by the sense of his own inability to meet the demands of the case; when this is the true cause, while we may commend him for his sincerity, still we must respectfully submit that he is a much too willing exponent of the sentiment that teaches "Where ignorance is bliss, 'tis folly to be wise." I will not say more on this point, but will avail myself of the privilege extended by law to those who are not required to testify as to matters that may criminate themselves. The consideration of the worth of trusses should contemplate the elements of the instrument that contribute to cure, to comfort, to convenience, to cheapness, and to durability.

That ruptures are cured by the proper use of trusses, there can be no doubt; but the number of substantial cures resulting is, unfortunately, small. It is impossible to estimate, with any degree of practical precision, the percentage of cures resulting from hernial appliances, since these appliances are commonly worn for the comfort and convenience they afford, rather than for the purpose of a cure. Although it is proper to say that there are many trusses extolled for the certainty of cure, these, however, soon become associated with other things of a worldly character, that contribute to heart-sickness by reason of "hope deferred." I have at this time under observation several patients who have worn trusses for two to five years by my direction, and they still continue to wear them by the same advice, although anxious in a few instances to lay them aside, because, as they express it, "It has not been down in months." It is, in my judgment, unwise to dispense entirely with the use of the truss, no matter how sure the patient, or even the doctor, may be of cure. In fact, the greater security lies in the judicious continuance of the use for patients who are certain of having recovered. Persons under twenty years, especially children, who wear the appliance faithfully, may expect to be markedly benefited, if not cured, when suffering from either form of inguinal or femoral hernia of a reducible nature. The cure contemplated, however, is one that does not provide for all physical contingencies of human life. It is a cure in the sense that the structures may be then as able to withstand the effects of force as before the primary appearance of the hernia. It is a cure in the sense that the ordinary vocations of life may be safely met; while all others should be feared to the extent of seeking a safe retreat behind the friendly support of the ubiquitous truss again.

It is my practice, when the means of the patient will permit, to advise the procurement and use of three distinctive trusses: one, intended for comfort, strength, and durability, for day use; another, equally serviceable in other respects and impervious to water, for bathing-use; the last, for comfort and security during the hours of rest.

[1] Read at the meeting of the Medical Association of the State of New York.

The advantages arising from this course are obvious, and too, it is equally obvious that if due care be not exercised in changing these trusses, the anticipated benefits from their use cannot occur. The establishment of the habit of assuming the recumbent position while making the interchange, is the only simple and safe method of procedure.

The manner in which cure is accomplished by a truss is not as yet thoroughly agreed upon. It is, however, a most important matter to be decided, as bearing on the proper mechanism of the truss itself. Do trusses cure hernia by establishing adhesive inflammation between the serous surfaces of the sac? or by retaining the viscera in the normal position, thereby permitting the displaced and stretched tissues to resume, as far as possible, the normal relations with each other? or, are both of these influences active in the cure? In my judgment the cures are rare where each of these influences plays an equal part in the cure. It is not my belief that adhesive processes are often excited within the sac by a hernial appliance. While it is no doubt true that in exceptional instances, by reason of the vigor of the appliance or peculiarities of the patient, adhesion may be effected, still a method or means directly intended to accomplish this indication would "make the treatment worse than the disease."

The occlusion of the sac appears to me to be due to contraction of that structure—a contraction dependent on the normal resiliency of it, aided by the friendly pressure of the contiguous surrounding tissues, caused by their return to the previously normal position. This contraction is of a uniform character at all aspects of the sac, as is indicated by the cord-like appearance of its remnant. If the obliteration of the sac were due to inflammatory adhesion incited by a peculiar variety of truss, then, indeed, would the local symptoms incident to such a process and the outlines of the occluded sac point to this change as the means of cure. I believe it is not too much to say that the tissue composing the sac, and also the tissues *around* the entire sac, will return to substantially their normal dimensions and relations when the distending and disturbing influences that have caused the change in them are long removed. If this be true, then the theoretical construction of a truss becomes quite a simple matter. The implement holding the pad in position should be elastic, and should exercise a degree of pressure sufficient to hold the truss in proper position, and at the same time exert enough additional force on the pad to prevent escape of the viscus. The pad should be of such a size and shape that, while the force from it does not tend to separate the point of exit of the viscus, still it will prevent the insidious entry into it of the intestines or omentum for even a short distance. In other words, the pad should be slightly convex, and large enough to exert pressure to some little distance beyond the border of the rupture. It should be hard, because a hard substance only will maintain the necessary relations just described. If it were soft, then the inequality of the resistance at the face of the pad, due to the existence of the separated and stretched tissues of the abdominal wall, would permit an inequality of the surface of the pad that would interfere with the return of the abdominal wall fibres to the normal relations. Furthermore, soft pads are less cleanly and less durable than the hard, consequently more irritating and expensive.

It seems to me to be entirely proper to consider the effect on the contents of a hernial protrusion exercised by their continuous retention within the normal cavity. It is a fact that cannot be gainsaid, that the long-continued existence of omentum, mesentery, and intestine, even in a gradually enlarging hernial sac, causes stretching and a more or less elongation of the omentum and the mesentery, and possibly of the intestine itself. The elongation of the omentum, and of a limited portion of the mesentery, is surely familiar to surgeons who have had the opportunity to study the characteristic appearance of the contents of hernial sacs, in connection especially with the attempted attainment of cure through radical means. It follows, naturally, if these tissues be retained within the abdominal cavity, that they, too, will again resume the normal proportions to a degree, at least, that entitles the hernial appliance to some favorable consideration in connection with the change.

The mechanical treatment of irreducible hernia introduces two additional aims, viz., support and protection of the protrusion. The protrusion should be so supported as to prevent further increase in the size of the protrusion itself, and also further increase in the area of the aperture of escape through the abdominal wall. A moderate upward traction on the protrusion is sufficient to neutralize the influences of gravity and other natural forces on it, and, in addition, to hold it gently against the abdominal wall in the course of the line of displacement. This condition of hernia ought always to be so protected as to obviate the dangers that ensue from the bad effects of traumatism. Neither time nor propriety will permit me to speak of the forms of trusses in the market. The medical man himself must judge between them, or from his inner consciousness evolve still another mechanism that equals or surpasses those already known. I will, however, submit the following conclusions to your consideration:

1. No form of truss yet constructed can be relied upon to cure any variety of simply reducible hernia.

2. The manner of the production of hernia, and that of its so-called cure by mechanical appliances, are such that cure by mechanical appliances, alone, need not be expected now, or hereafter.

3. Practical relief from the annoyance of a hernial protrusion may be had by the use of hernial appliances, which, however, ought always to be worn during all unusual physical efforts.

4. The so-called cures from hernial appliances are dependent on the restoration of displaced tissues to the normal position, and to obliteration due to natural resiliency of tissues; not, as is often claimed, to the inflammatory adhesion of serous surfaces, caused by special mechanical effects.

5. The hard, slightly convex pad, with the elastic steel spring attached, constitute the principal parts of the most philosophical, comfortable, cleanly, and durable of hernial appliances.

6. Suspension, elevation, and protection of irreducible hernial protrusions, are the main indications for this mechanical treatment.

Not long since, Mr. Heaton, of Boston, employed and recommended a method of treatment for the cure of reducible herniæ, which seemed, at that time, to offer to the afflicted of this condition the same ecstatic hope of immunity from it that the "Elixir" of Brown-Séquard incited in the credulous minds of frisky, though worthy, persons who had passed the "Rubicon" of life. Unhappily, however, for the latter class, the percentage of cure bids fair to be far less than that claimed for the former. I, myself, have had no experience with the "injection method," and do not now contemplate circumstances that will cause me to adopt this method of treatment, except perhaps in the young, and in cases of incipient herniæ, when other methods are not deemed advisable. However, there are with us to-day those who have tried the method effectually, and from them it is more befitting that statements should be received as to the efficiency of this method, than from one who can counsel only with theory and the lack of experience. It is, at all events, certain that a more effective method of radical cure is to be found in connection with the various operative procedures of the present day, than from the method by injection.

This leads to the inquiry, "Which is the best method of treatment for the radical cure, the 'open' or 'unopen' method?" I know of no better way of determining as to the relative merits of any special method of cure of any special condition, than that of inquiring at once as to the indications to be met, and as to whether or not this or

that special method complies the most fully with the natural demands for a cure. Let us take, as an illustration, a complete, simple, reducible, indirect inguinal hernia, and inquire as to the physical status of the affliction. 1. We find the internal ring dilated to admit the escape of the viscus; 2, the peritoneum is elongated by stretching and growth to form the sac; 3, the omentum, the mesentery, and perhaps the intestine, are elongated by the continued traction incident to their escape. The internal ring of fascia, and the corresponding peritoneum, are the first obstacles to the escape. When the viscus once enters the inguinal canal, the descent is not opposed by other than the tense elongating and enlarging peritoneal sac, the connective tissue in the inguinal canal, and the passive and varying pressure of the aponeurosis of the external oblique muscle, aided, perhaps, by the retentive influence of the elongating omental and mesenteric tissues. When once well in the inguinal canal, but little else obstructs the descent except the peritoneum composing the sac, and the lax fasciæ and integument of the abdomen. It therefore appears that the most substantial obstacle to the escape of hernia exists at the internal ring, and that when this is overcome, the formation of a complete hernia is merely a matter of time, facts which are confirmed by the clinical histories of cases of this form of hernia. From these statements it appears that the chief aim for the accomplishment of a radical cure must consist in so strengthening the internal ring and contiguous parts, that escape of intestine is both opposed and defeated. Now, which of the two methods just cited, the "open" or the "non-open" method, better strengthens the internal ring? The method of Macewen is, it seems to me, as good an example of the "non-open" method of treatment as can be selected. At least it is employed most frequently, is most strenuously defended, and best understood of the "non-open" methods. The method of Macewen occludes the peritoneal opening and strengthens the peritoneum at the internal ring, first by somewhat passive, afterward adhesive closure of the neck of the sac; also by elevating the serous membrane at this point, or "bossing" it, as it is often called, and by diminishing the capacity of the inguinal canal at the lower portion by the approximation of the conjoined tendon and the external pillar. The "bossing" is occasioned by confining the "ruffled" sac between the peritoneum and the fasciæ at this point. The occlusion of the peritoneal opening presumptively converts the peritoneum at this point into a nearly continuously smooth surface, when taken in connection with the contiguous peritoneum; while the "bossing" is supposed to elevate the peritoneum at the internal ring somewhat, to which elevation is assigned the functions of fortifying against and turning aside the internal visceral pressure at this, the weakened point. Assuming that all takes place that has just been described, we can add still further support by including the strength of the recently divided abdominal tissues, united as they are by the sought-for primary union. That it is reasonable to assert that closure of the neck of the sac does do it, as has just been stated, there can be no consistent doubt; but that the ruffling and placing of the sac itself, as is practised in this method, secures the "bossing" in many cases, is open to grave doubts. I am not aware that the occurrence of "bossing" has been actually demonstrated, but I am reliably informed that the reverse of the proposition has been noticed, under circumstances calculated to demonstrate it. It is difficult, indeed, to understand how the "bossing" can be maintained, even if it had occurred at the outset, when the external support to the internal pressure at this point is much lessened from the normal by the absence of, and by the weakened and elongated state of, the usual supporting tissues.

So much for the physical state of the "non-open" method. Let us now conduct a similar comparison in connection with the "open" method. In this method the neck of the sac is closed by a ligature. The sac is then cut off, aponeurosis of the external oblique slit up to opposite the internal ring, and the entire wound is caused to heal by granulation, care being taken to so treat the wound as to cause the cicatrix to reach up to and support the peritoneum at and about the point of ligaturing, which is the weakest place. Other stitches are taken to modify the shape and size of the scar, but the grand *finale* is this; with honors easy between the methods, so far as peritoneal surfaces are concerned, the peritoneal structure of the latter is supported and fortified by a cicatrix, which occupies the inguinal canal, *and which it is thought will prevent the further escape of hernia, so long as the cicatricial tissue continues to exercise the peculiarities characteristic of its nature.* The integument and fasciæ, too, are involved in this scar. In the "non-open" method the degree of the resisting influence exercised by the reunited tissues is also somewhat problematical, for the tissues, when healed by primary union, are capable of withstanding but little, if any, greater force than when in the normal state. The comparative resistance of normal tissue with that of cicatricial tissue, is easily understood when the latter is noticed so frequently to draw the former toward itself, with the same grim certainty that the unsuspecting mariner is said to have approached the traditional maelstrom. My experience with the "non-open" method is limited to nineteen cases, but I regret to be unable to state the results after a period of sufficient length (three years) to enable me to form more than an approximate estimate of the worth of the method from my own experience. The majority of these (eleven) were hospital cases, all of which passed from my observation in from four to six months. Of the remainder, I have no reliable knowledge, except in one instance of two years' standing which is *still* cured. Suffice it to say, however, that so long as they were kept under my observation, no return was noticed except in one—a hospital case—and this was within four months after operation. As to the "open" method, my experience is limited to five cases,[1] all but one of which have been performed during the last year. In the winter of 1887, in a clinic given at Bellevue Hospital, I treated a case of hernia for radical cure by the open method, in all practical respects. The wound was packed with gauze, but not with the special care and precision advised by Dr. McBurney. The healing occupied about six weeks, and when the patient was last heard from, one year after, he was still in a sound condition.

I cannot close this portion of the subject without calling to your attention a somewhat newer method of operating that I have practised on three distinct occasions. It certainly has some features that commend it, and, believe me, neither of these has to do with the fact that the method was devised, so far as I know, by myself. It is performed by weaving the sac, after separation, and ligaturing its neck with catgut into the pillars of the ring in the following manner: Fig. 1 shows the isolated sac, with the neck A tied (see foot-note on page 508), also the pillars of the ring slit for the purpose of weaving. Fig. 2 shows the sac carried upward beneath the inner pillar, and through the upper slit. Fig. 3 shows the sac carried downward through the slit nearest the border of the inner pillar, thence downward beneath the outer pillar of the ring to and forward through the lower slit of this pillar. Fig. 4 shows the sac passing upward through the slit nearest to the margin of the external pillar, and finally, if long enough, upward beneath the free margin of the inner pillar again. The borders of the pillars are then approximated by making tension of the sac, and the whole mass is finally quilted together with deep stitches of catgut, leaving sufficient room, however, for the passage of the cord (Fig. 5). The external wound was closed in each instance, and primary union followed without an unfavorable symptom. One of these cases was a female with a large, direct, painful inguinal hernia, which could not be retained in place by mechanical means, and the patient

[1] Since the writing of this paper, one of this number, operated on four months before, has been reported to me as showing evidences of return.

could secure comfort only by continuously assuming the recumbent posture. At the end of four weeks she was allowed to go about, and six months from this time, when last seen, was still in sound condition. In the second case the hernia returned six months after operation, during a severe attack of whooping-cough. The third case

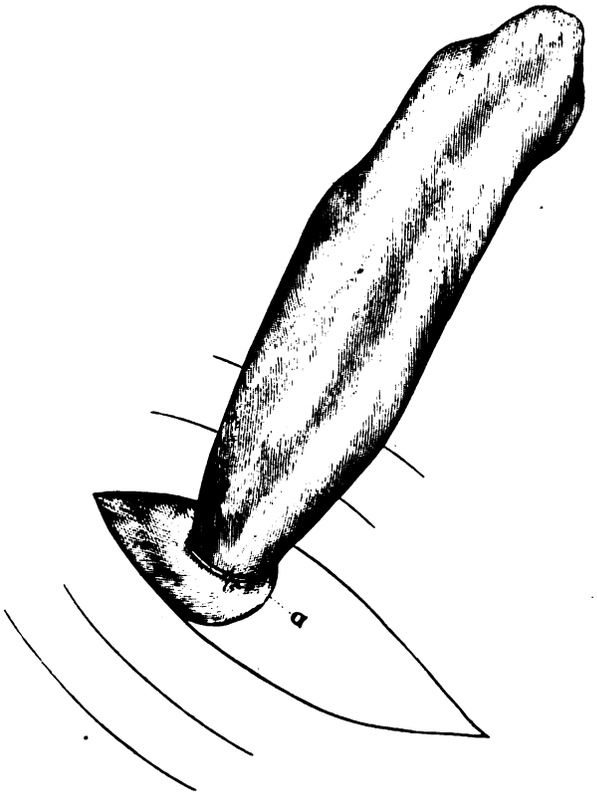

FIG. 1.—The Isolated Sac.

disappeared from observation entirely, as soon as allowed to leave the hospital. This method closes the neck of the sac, the same as the others; but, unlike the others, fills the inguinal canal with normal serous tissue, which is so placed as to support the peritoneum and fasciæ extensively at the weakest part. It is possible that still greater firmness can be secured if the wound be treated openly after the weaving and quilting processes are completed. In one of these cases the fasciæ in contact with the peritoneal sac were not disturbed, but were woven in as if peritoneum alone were present. This modification introduces a larger amount of tissue into the canal, and correspondingly increases the strength of the region, and likewise obviates any impairment of the nutrition of the sac that might arise from the removal of the fasciæ from it. It has been assumed that the ligaturing of the neck of the sac will cause the sac to slough, especially in old persons. In one of the cases operated on by myself, the patient was about sixty years of age, and, as already reported, a rapid and uncomplicated recovery supervened. However, if the danger of sloughing of the sac dependent on the ligaturing be the main objection to this method, then passive means of primary closure of the neck of the sac can be readily substituted for the ligature.[1] It is my opinion that this method cannot be employed indiscriminately as can the open method, since it frequently happens that the sac is illy developed, or so much damaged by isolation that it will be unwise to hope for particular benefit from the weaving process, even if it be possible to employ it; and, too, not infrequently the external pillar of the ring may be found to be so narrow and attenuated as to render its slitting impracticable. The following conclusions are submitted in connection with this phase of the subject.

1. That the open method of treatment is the most rational and the simplest method for the radical cure of hernia, provided the resulting cicatrix meets the expected requirements; consequently, the additional time required for treatment by the open method will be time well employed, if the cure resulting from this method should offer greater immunity from return of hernia than does that of any other method of treatment. 2. That the best sources from which to judge of the absolute and comparative results of the methods of radical cure are afforded by infirmaries for the ruptured, where the unfortunate persons go finally for relief, as a last resort. 3. That failure of the open method to cure, leaves the patient less amenable to the beneficial effects of a truss, and to subsequent radical treatment, than a failure from the non-open method, by the substitution of cicatricial for normal tissue; therefore, the percentage of primary cures from the open method should much exceed those of other methods, to insure the final benefit of the patient. 4. That the interweaving of the sac with the pillars of the ring, followed by open or closed treatment of the wound, will afford in many cases equal, and even greater, security than by any other method of treatment.

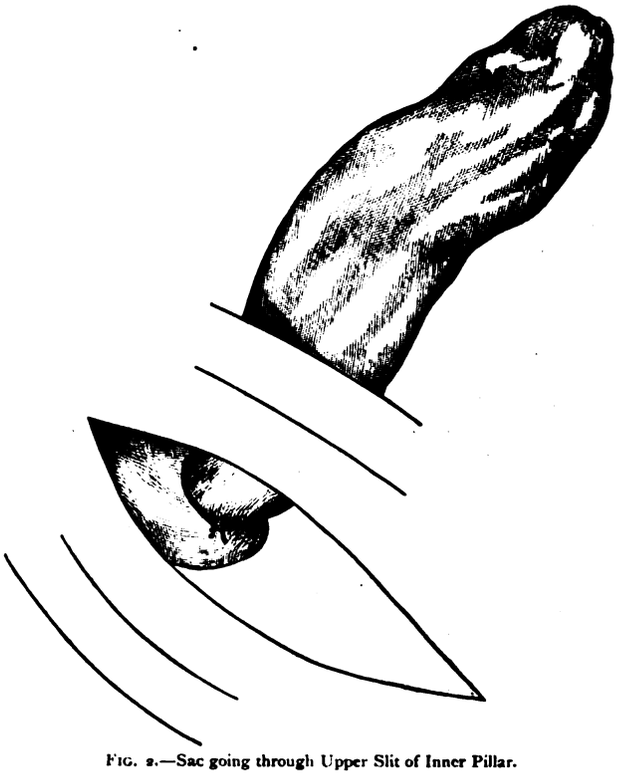

FIG. 2.—Sac going through Upper Slit of Inner Pillar.

The "medicinal and manipulative measures" of "palliative character" employed for "strangulated hernia," and the "reliance" placed in them, will be governed

[1] Since the presentation of this paper, I have had an experience which has caused me to advise against one step of the operation—ligaturing the neck of the sac. In a clinic given at Bellevue Hospital but a few days since, this method of treatment for radical cure was practised on a patient aged fifty-two. Four days after the operation a temperature of 102° caused an examination of the wound to be made. The superficial tissues had healed perfectly, but a limited separation of them, made for the purpose of examining the condition of the interwoven sac, disclosed the fact that limited portions of the sac were undergoing inoffensive disintegration. It has frequently been my practice to ligature the neck of the sac, before ruffling and depositing it, after the method of Macewen, and never before have symptoms arisen that were suggestive even of the idea of a similar unfavorable result. However, it is proper to say in this connection, that since the avowal of the unfavorable course in this case, others of a similar nature, in connection with a different method of operation in the practice of the Hospital, have been announced. It is now my intent[illegible]oced- omit ligaturing the neck of the sac, and to employ instead[illegible] by injec- passive means of closure.

At the next opportunity I shall scrape the inner surface of the sac slightly with a knife, and then pass a catgut lig[illegible] best method and around both walls of the sac at the middle of the the abdominal peritoneum, so as to include in the gra[illegible] or 'unopen' ture a portion—say one-fourth of an inch in width. [illegible]rmining as to

The ligaturing of this portion will prevent the entran[illegible] cure of any into the neck, without impairing the nutrition of the sa[illegible] closure of the neck has taken place under the pressu[illegible]nce as to the ings. [illegible]r not this or

largely by the experience of the medical attendant; by the surgical atmosphere in which he moves; by the means of carrying into effect the measures which he deems best for the patient; and, too, they will be modified not a little by the predilections of the patient and of the friends. The medical measures that quiet pain the easiest and quickest, and cause complete relaxation of the tissues, represent the palliative remedies to be employed. The measures that favor most the influence of the force of gravity on the protrusion, with or without the use of taxis, are together the palliative manipulative measures of standard reliability. Morphia injections, hot-water baths, with elevation of the part bearing the hernial protrusion, are

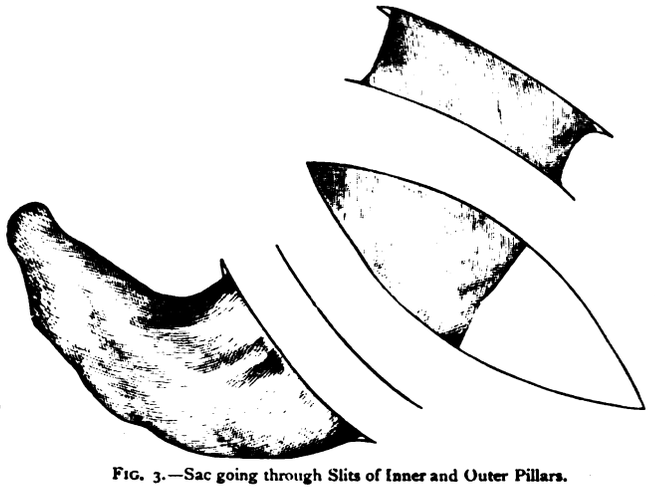

FIG. 3.—Sac going through Slits of Inner and Outer Pillars.

the best and most available means at the command of the medical attendant. If these be combined at once with well-directed and moderate taxis, a successful return of the viscus may be prognosticated under ordinary circumstances. If these means fail, and the local or constitutional symptoms of strangulation continue, then taxis should be tried again briefly, under complete anæsthesia, and, if not successful, herniotomy should follow at once. Too long, too frequent, and too forcible taxis are the ruling tendencies outside the hospital influences. Taxis ought not to be employed continuously for longer than a quarter of an hour. If it be properly directed, this is sufficient time in which to safely effect a reduction of the

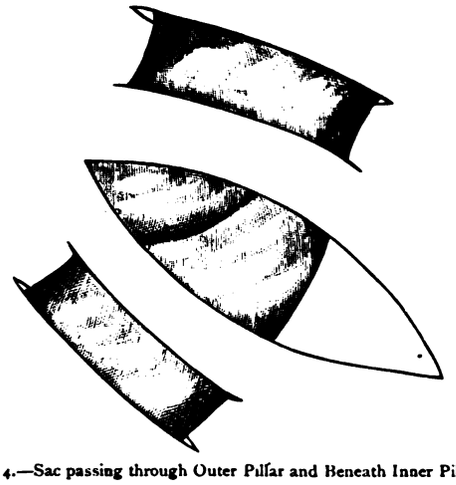

FIG. 4.—Sac passing through Outer Pillar and Beneath Inner Pillars.

gut; if improperly directed, then even *this* is much too long a time. The frequent employment of taxis in a single case arises from the unwise practice, that often inspires each medical man who comes in contact with the patient, to attempt the reduction. The majority make the attempt from proper motives; a few from vain and selfish ones that too often prompt the effort only because others have failed. The latter are the "John Horners" of the case, who, although they may not "stick in a plum," try to "stick in" the viscus; and if successful, each will cry "What a brave boy am I." Too forcible taxis comes of inexperience, haste, and unwarranted energy. Inexperience as a cause will always exist, but haste and unwonted vigor need never be practised. In view of the general knowledge of antiseptics in surgery, and of the results of their use, and also of the immense advantage to the patient from a radical cure, there is little ultimate benefit that can come to a patient now from even the wise and successful employment of taxis. However, it is not my intention to advocate the abolition of taxis; there is nothing so practical that can take its place. The ablest surgeon, the humblest physician, and the suffering patient, each employ taxis at the onset of the case, and not infrequently the self-experienced and self-educated patient employs it even more successfully than either of the others. It is the *abuse*, not the *use*, of taxis that demands condemnation. The medical attendants of hernial unfortunates should employ taxis when required, and should know how to do it properly in all respects. There are far greater numbers of medical men who can perform taxis successfully, than who can operate properly on strangulated hernia. Improperly performed taxis, when employed as cases arise, is not as fatal a procedure as inexperienced, bungling herniotomy under like circumstances. It is well to remember that, however confident the surgeon may be of the proper course to be pursued in a special case, that the patient and the friends may differ from him in some important respects. They will

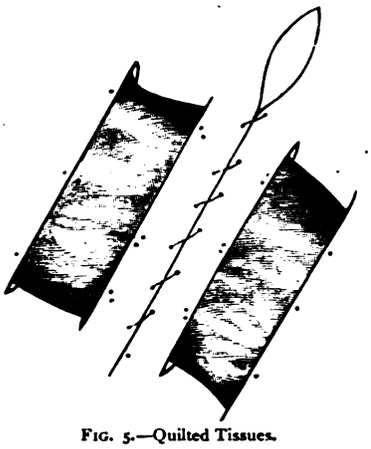

FIG. 5.—Quilted Tissues.

often oppose operative measures, because patients of whom they have known have died after the performance of them, and also because persons have recovered without them, and, too, in the face of the positive assertion of the surgeon that life can be saved only by operation. In such instances as these, one has but to state firmly, yet respectfully, his convictions of the case, and if unheeded, then decline to assume a responsibility which he himself can have no voice in creating. Your attention is invited to the following conclusions regarding this part of the discussion:

1. The abuse, not the use, of taxis constitutes an evil against which all surgeons should protest.

2. That a quarter of an hour of well-directed and continuously applied taxis is a rational procedure; longer than this is unnecessary, therefore unwise and harmful.

3. That repeated attempts at reduction on the part of different persons is pernicious, therefore dangerous and destructive.

4. That the present status of modern operative surgery has reduced the successful employment of taxis to the position of rendering but little practical benefit to the patient, except in special cases.

The rigid enforcement of antiseptic principles should be adhered to in all cases of hernial surgery. The antiseptic technique is as essential in successful radical cure operations, as in herniotomy itself. Hours can now be consumed in writing numberless pages on the "best technique applicable to an operation for strangulation hernia," and, at the end of the time little more will be said than ought now to be well understood by all such as may be

called on to operate for relief from this physical calamity. I will not, therefore, take the time of the Association by dwelling on the details of the line of incision, division of layers, identification of the sac, location and division of the construction, etc. It is my belief, however, that the surgeon who now neglects to perform an operation for a radical cure, as an addendum of herniotomy, falls short of his duty of consulting the best future welfare of the patient, provided, of course, that the immediate condition of the patient and of the tissues will permit. The question as between the selection of the open or non-open method in these cases, is largely a matter of expediency, in which the patient and friends should be consulted at the onset. If the time at the patient's command be short, and the condition of the tissues be favorable for it, then the non-open method should be selected. If, however, the final benefit to the patient alone be the only matter for consideration, then it is hoped that the open method may prove more highly commendable. The following conclusion is submitted:

That, all things being equal, radical cure should be practised as an addendum to herniotomy.

It happens occasionally that gangrene of the contents, or even of the sac itself, complicates strangulation. This is a complication of vital importance to the patient in a literal, and to the surgeon in a professional, sense. The proper treatment of such cases calls for as great display of skill and judgment on the part of the surgeon as is required for the treatment of almost any other surgical condition. The treatment of this complication should be divided into two classes, the *preventive* and the *remedial* treatment. The preventive treatment consists in an early reduction by taxis or by other means; or, failing in reduction, a prompt operation. The extremes of time after strangulation, before gangrene occurs, can never be accurately known, nor is it wise that these periods should even be approximately known, since it is unwise and dangerous to allow the question of the length of time of the existence of strangulation, as bearing on the occurrence of gangrene, to exercise any special influence on the operative judgment of the surgeon, since the existence of gangrene cannot be usually determined until after exposure of the contents of the sac by operation. The waste of important time in either nursing or considering hair-splitting theories, or in idle and useless prognostication, is evidence of the fact that much learning may become more dangerous even than a little.

The remedial treatment applies to the question, "What shall be done if gangrene have occurred?" If the sac alone be gangrenous—which is improbable—the gangrenous portions should be removed, the contents of the sac returned, the neck of the sac closed, superfluous portions of the sac cut off, and then radical cure should be sought for under the open method of treatment. If the intestine be gangrenous, the surgeon will then be obliged to entertain the propriety of practising one of the three following plans: 1, Of leaving the gangrenous intestine alone and relying on nature to form an artificial anus; 2, of the removal of the gangrenous portion and the stitching of the gut to the wound (if the constriction have already been divided), thus forming an artificial anus; 3, of excision of the gangrenous portion, immediate union of the extremities by sewing, and the return of the intestine to the abdominal cavity.

Which one of these plans should be adopted will depend largely on the following considerations: 1, The physical condition of the patient; 2, the physical condition of the wall of the intestine; 3, the portion of the intestinal tract involved by the gangrene; 4, the surgeon's available knowledge of the technique of the requirements of the case.

It is not, in my judgment, ever advisable to allow nature an unaided course in the matter. The sooner the tension within the intestine is relieved by causing a free escape of the obstructed contents, the sooner relief will be had from the distressing symptoms of strangulation. It is not difficult to understand that the additional time required to bring relief through nature's efforts alone might be the determining cause of the death of the patient; and, too, the early relief of the intestine from the effects of internal pressure and extreme vascular plethora, will reduce the extent of the sloughing to a minimum. There appears to me to be no doubt of the fact that, after carefully protecting the wound from contact with the intestinal contents, the gangrenous intestine ought to be incised sufficiently to relieve its fecal and vascular plethora. I deem it unwise to divide the constriction before incision and depletion of the intestine, except the constriction be thought to be too narrow to permit the escape of the contents without division—a degree of closure that must be rare indeed. The reasons for this opinion are: 1, Such a course may permit the intestine to elude the grasp of the surgeon and escape into the abdominal cavity, with obviously fatal results; 2, after depletion of the intestine, the division of the constriction may be found to be unnecessary, and even unwise, if the establishment of a temporary artificial anus be contemplated. However, if, after depletion, the extent of the gangrenous portion of the intestine appears to be limited in part or entirely by the seat of the constriction, or the amount of non-gangrenous intestine outside of the seat of stricture be too small to meet the requirements of a properly formed artificial anus, then the constriction should be carefully divided, and the intestine drawn down sufficiently, at least, to bring to view a healthy, complete, intestinal circumference, which should then be stitched to the border of the wound with silk, or otherwise retained if immediate or remote enterorrhaphy be contemplated. If, after the depletion of the intestine, a sufficient amount of non-gangrenous gut remain external to the constriction to meet the further demands of the case, then the constriction need not be divided, provided, of course, that the internal pressure from intestinal contents has been entirely relieved. The means to be adopted by the surgeon to determine the existence of gangrene of the gut are standard matters in almost innumerable publications. I can add nothing to the list of stereotyped measures so long employed for this purpose. After exposure of the gut, if the question arise as to whether or not gangrene may supervene, care should be taken to completely relieve all constriction of the gut, and also to retain it *in situ* until this element of the prognosis is determined; then the degree and extent of the gangrene will control the subsequent action of the surgeon. If it be of so small an area that the removal and the repair do not reduce the calibre of the intestine to less than two-thirds the normal diameter, the gangrenous area should be removed, the opening closed by sewing, and the intestine returned to the abdominal cavity. It is important to remember, however, that an impairment of the mesenteric border of the intestine should not be thus treated; this condition calls for excision of intestine to the extent of the mesenteric impairment, otherwise gangrene of the intestine may ensue to a similar extent. If gangrene of the gut be too extensive to admit of a simple method of repair, what then should be done? Shall an artificial anus be established to be cured by a subsequent operation, or shall the gangrenous intestine be excised at once, the extremities united, and the bowels returned to the normal cavity? If the condition of the patient be such as to warrant the belief that an operation of an hour and a half or two hours' duration may be performed with reasonable safety, the intestine should receive a radical and permanent treatment at once, and be returned into the abdominal cavity.

If the character of the intestinal discharges, the [illegible] tion of the protrusion, and the anatomical char[illegible] of the bowel, warrant the belief that the jeju[illegible] volved, then radical operation should be p[illegible] once, even at great risk to the patient, other[illegible] anition will ensue, which, if it do not destro[illegible] in a few days, will so quickly enfeeble him [illegible] the possibility of a favorable result from a [illegible]

tion. As an illustration of this, Riedel reports a case where the opening into the intestine was located about half-way between the pyloric extremity of the stomach and the cæcum (eleven feet), in which rapid inanition ensued, and at the end of twelve days radical operation was performed as a last resort, and without success. It is wise in this connection to remember that the jejunum is commonly located in the umbilical and left iliac regions of the body.

The condition of the walls of the gut, adjacent to the opening in it, does not exercise so very important influence on the chance of the immediate radical, or the temporary anal, operation for gangrene, because in either instance sufficient intestine can be readily withdrawn to secure sound and non-congested tissues for sewing. However, other things being equal, it is better to restrict the extent of the excision of the intestine to the narrowest practical limits, for, the longer the piece removed, the longer will be the time employed in the operation. The congested state of the intestine should not cause delay in the operation if the intestine be involved in the upper two-thirds, since the danger of inanition due to delay will be greater to the patient than the sacrifice of all the congested intestine contiguous to the opening. At all events, the sewing should be done in the perfectly normal intestinal tissues, if the best results are to be expected. It is proper to say at this time that the removal by excision of four or five feet of small intestine need not cause undue apprehension as to the possibility of inanition of the patient. Koeberlé is reported to have excised nearly seven feet without causing a resulting appreciable change in the nutrition of the patient.

In the operative treatment of gangrene of the intestine by the radical method, rapidity, thorough antisepsis, and complete familiarity with the technique of the steps of enterorrhaphy are of most vital importance; so important in fact, that the operation should not be attempted except by the best skill at command. It is far better for a patient that an artificial anus be made, even with unfavorable prospects, than that immediate radical measures be attempted by those not familiar with their surgical technique, since it may soon be possible to secure the necessary skill. It will be noticed that I have not employed statistics, not described the minute details of measures on the knowledge of which strong insistance has been made. The reasons for this course are twofold: 1, Because time would not permit it; 2, because these facts could be more appropriately considered in connection with the special parts of the discussion allotted to others. The following conclusions appear to me to be properly deduced from the preceding statements:

1. When gangrene of the intestine has taken place and the condition of the patient will permit, intestinal repair should be practised at once, and the gut returned to the abdominal cavity.

2. When gangrene has occurred, presumptively involving a portion of the upper two-thirds of the intestine, intestinal repair should be practised at once, and the gut returned to the abdominal cavity, even if the immediate result of the operation be somewhat doubtful.

3. When gangrene has occurred and the condition of the patient will not permit immediate operation, a temporary artificial anus should be formed.

4. It is better to form an artificial anus, under all circumstances, when the medical attendants are not familiar with the details of intestinal surgery.

5. Division of the constriction is not always necessary, and is often unwise when the formation of an artificial anus is contemplated.

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AN INSPECTION OF FOOD IN THE RUSSIAN ARMY.—The medical authorities of the Russian Ministry of War have decided to establish ambulatory laboratories in connection with each army corps, in order that a strict investigation may be made into the quality of the food supplied by the commissariat.

## ON THE PATHOLOGY AND TREATMENT OF INTRA-PELVIC INFLAMMATIONS.[1]

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INTRA-PELVIC inflammations, with their sequelæ, compose the most common conditions with which the gynecologist has to deal. In the entire compass of medical science and practice no subject has been more misunderstood, and none more erroneously interpreted.

Thirty years ago Bernutz and Goupil, after careful clinical and post-mortem investigations, clearly described the true pathology of pelvic inflammations, but it has only been since operative surgery has opened up the peritoneal cavity to daily exploration that their researches have been appreciated and accepted. Even at this advanced period, many of our prominent teachers and authors classify intra-pelvic inflammations under two heads—*para-metritis*, and *peri-metritis*—with treatment adapted accordingly. Modern investigation has swept this classification aside, confirmed the truth and accuracy of Bernutz's researches, and demonstrated the relation of diseased states of the ovaries and Fallopian tubes, together with puerperal, specific, and other infections, to pelvic inflammations.

It is not my purpose to review before this audience the anatomical relations and histology of the pelvic organs, a task altogether superfluous; nor will I, except in the most casual way, touch upon the vast literature of pelvic inflammations. It seems to me most profitable at this time to treat the subject from the pathological and clinical standpoint.

M. Bernutz made a most happy comparison between inflammation within the pelvis and the same process within the chest. Skene and other modern writers have utilized the same analogy to describe and illustrate the pathology of intra-pelvic inflammation. In both thoracic and pelvic inflammation we have the croupous and catarrhal processes. We have peritonitis and parenchymatous inflammation on the one hand, while we find pleuritis and parenchymatous inflammation on the other. In pelvic inflammations we have recovery by resolution just as in pleuro-pneumonia, leaving adhesions and bands in the one cavity as in the other. When the inflammatory process so interferes with nutrition as to destroy vitality, we have pelvic abscess in the one site and pyothorax in the other. We find the bacilli of tubercle invading the pelvic serous membrane and contained organs, just as in the pleura and lungs. A mucous surface furnishes access for infection in both cavities. M. Bernutz further states that uterine pathology is as certainly subordinate to a thorough acquaintance with pelvic peritonitis, as pulmonary diseases have been to a complete knowledge of pleuritis made possible by the discovery of auscultation. In the light of knowledge recently established, this last statement shows how thorough and profound were the researches of these eminent clinicians and pathologists, MM. Bernutz and Goupil.

Permit me to continue in the lines indicated by Bernutz once again. After discussing the theory of pelvic inflammation promulgated by M. Nonat—essentially that of pelvic cellulitis, which until recently held full sway in the practice of modern gynecology—he says: "For some time I had no idea that the view propounded by M. Nonat was a mere hypothesis which rested on no post-mortem evidence. And it was not till after the unfortunately fatal termination of two cases that I was able to prove incontestably, that the peri-uterine tumor which, during life, presented all the symptoms of the so-called peri-uterine phlegmons, was not situated in the cellular tissue at all. In the autopsies in question, the tumor, which even after death presented all the usual signs, was seen to be formed by the pelvic viscera being matted together by peritoneal ad-

[1] Read before the American Association of Obstetricians and Gynecologists, September 18, 1889.

hesion. . . . These researches, then, have led to the conclusion that inflammation of the pelvic peritoneum, which is the cause of the visceral adhesions, is a disease which is very commonly met with. . . . Lastly, I conclude that inflammation of the pelvic serous membrane is symptomatic, and that it is generally symptomatic of inflammation of the ovaries or Fallopian tubes. Thus great interest attaches to the study of this affection, and it is very important to thoroughly understand the symptoms, in order to describe satisfactorily the uterine, and more especially the tubo-ovarian, diseases which occasion it. . . . It follows from all this that, unless we get fatal cases to enable us to determine anatomically where the pelvic inflammation began, we cannot state positively whether it came from inflammation of the ovary or of the Fallopian tube; nor whether it was caused by the puerperal state, by blenorrhagia, scrofula, or any other malady. Thus we can only lay hold, as it were, of the two ends of the pathological problem, the primary disease and the serous inflammation—the intermediate gap we can only fill up after death."[1] Herein may be found the very essence of the most advanced pathological knowledge of the day concerning intra-pelvic inflammations, and it is surpassing strange that the researches of MM. Bernutz and Goupil lay before the profession for so many years like good seed upon sterile ground. It was only when the science and art of surgery made great strides forward, as illustrated in the perfected aseptic surgery of the day, that "the intermediate gap" which Bernutz could "only fill up after death" was filled up during the life of the patient. The researches of Bernutz and Goupil in this important field of pathology are complete, and constitute the basis of the pelvic surgery of the present time; their work is the first and greatest, a monument to the genius and patient industry of these faithful followers of science.

The points relating to the pathology of pelvic inflammations which have been established, the correctness of which I am fully convinced by my own clinical observation and experience, may be grouped in this manner:

1. Intra-pelvic inflammations cannot be properly classified as para-metritis and peri-metritis, inasmuch as inflammations of serous and cellular tissues cannot be separated clinically or histologically.

2. Peri-uterine phlegmon of Nonat (pelvic cellulitis of Emmet) is as rare as inflammation of the cellular tissue in other parts of the body.

3. Intra-pelvic inflammation is, as a rule, *peritonitis*, resulting from disease of the ovaries and Fallopian tubes, arising in puerperal or gonorrhœal infection, or the miscellaneous infections carried to the endometrium by unclean instruments, tents, or medicinal agents, or from traumatism.

4. Pelvic peritonitis is symptomatic, never idiopathic. Pelvic peritonitis presents every grade of severity. In some instances there is a mere inflammatory spot, giving rise to but little discomfort at the time and passing away without treatment, leaving a bare trace behind, often found post mortem. A higher grade is illustrated by those instances wherein the peritoneum exhibits subserous congestion, transudation of serum, and exudation of plastic material. In a more severe grade there is immense transudation of serum, which accumulates in the pouch of Douglas, corresponding to pleurisy with effusion. In a very high grade the entire pelvic peritoneum is involved, the several stages of the process—congestion and exudation—are followed by suppuration, an affection of fearful proportions, and unless treated surgically, going often to a fatal issue. The sequelæ of pelvic peritonitis depend upon the vitality of the individual, the grade of the inflammatory process, and the area involved. Where the surface is limited, or maybe quite extensive, recovery may take place by resolution and leave only slight adhesions behind. When the inflammation is higher and the exudate more extensive, layers and bands of false membrane remain, forming organized adhesions. The products of inflammation may be deposited over the uterus, ovaries, and broad ligaments, leaving these organs imbedded or entangled in a mass of adhesions. As time goes on the exudate passes through repeated stages of congestion into organized tissue, with constant tendency to contraction. Pressure upon the ovaries is followed by inflammation, degeneration, and atrophy of these organs. The fimbriated extremities of the Fallopian tubes are imprisoned and destroyed. At each recurring menstrual flux these bands are made tense by congestion, increased in thickness, and more thoroughly organized. In addition to the lesions entailed by pressure, the secretions are retained, and ovarian abscess and pyo-salpinx are common results. When the inflammation is very intense, involving subserous structures, the vitality of tissues is destroyed and one form of pelvic abscess is the result.

Although it is not contemplated to discuss the diagnosis and symptomatology of intra-pelvic inflammation in this paper, I must be permitted to dwell for a moment upon the clinical picture which corresponds to the lesions I have just described. A woman suffers an attack of gonorrhœa, often contracted innocently, and has a severe attack of pelvic peritonitis. Or she has an abortion, or labor at full term, and has the misfortune to become infected and peritonitis results. After a severe and protracted illness the acute symptoms pass away; in time she gets up and is congratulated by her friends upon her convalescence and recovery from so severe an illness. Time wears on with improvement in her general condition, but she maintains that she is not well. The menstrual periods are seasons of intense pain and distress, and usually opium is administered. By and by the family physician makes an examination, and my observation has been that he usually decides a malposition of the uterus to be the principal trouble, and inserts a pessary. The trouble persists, and pain is intensified by the pessary, which after a varying period has to be abandoned. The woman is an invalid. If well-to-do she spends the greater portion of her time in bed, drives out occasionally, and craves morphia, chloral, and other anodynes. She walks with a peculiar halting gait, has a pinched expression, and suffers from reflex nervous disturbances. She is treated with the hot vaginal douche, local applications to the cervix and vaginal vault, and is improved by none of them. About this time massage, rest in bed, milk diet, with varying and unsatisfactory results, will be invoked in her behalf, but nothing in the way of permanent relief results. She is a helpless invalid, and a great sufferer. The ultimate issue of the case may be one of three alternatives: either to hold out until the menopause, when physiological repose and atrophy may bring relief; to remain an invalid for years with opium and all the accompanying misery, ending probably in abscess; or to have the diseased and imprisoned organs, with their consequent histological changes, removed. I submit that the picture is a familiar one to those who see much of pelvic disorders. In connection with such a pathological state, we must not overlook the persistent influence of the menstrual congestion upon the growth and density of the organized exudate to which I have previously referred.

The treatment of intra-pelvic inflammations must depend upon the structures involved. The cardinal fact that pelvic peritonitis is always symptomatic, always the sequel and result of infection, must never be lost sight of in formulating any plan of treatment. Catarrhal inflammation of the endometrium may, by the ordinary process of continuity of surface, extend to the tubes and ovaries. Prolonged congestion and thickening of the mucous lining, with retained secretions, results in localized peritonitis.

Treatment by depletion, cleanliness, antisepsis, and drainage may arrest and limit the inflammatory process and induce a cure by resolution. The peritoneum is an immense lymph-sac, quick to open the avenues of microbic invasion. An untidy exploration with the uterine

[1] Clinical Memoirs on the Diseases of Women, New Sydenham Society, London, 1867, vol. ii., p. 5.

sound often conveys the infectious spark which spreads from the endometrium like fire on the prairie. Gonorrhœa is a disease leaving in women the formidable sequelæ of salpingitis, peritonitis, pyo-salpinx, ovarian abscess, and often general suppurative peritonitis. Labor and abortion are processes especially prone to admit infection, and unless rigid cleanliness is observed, are usually followed by varying grades of pelvic inflammation. Rest, the clean hot douche facilitating drainage, saline cathartics favoring revulsive drainage and depletion, are means of treatment which often arrest and limit the inflammatory process and lead to cure by resolution. To recount the various pathological states of the uterus, ovaries, and Fallopian tubes, with which general or localized pelvic peritonitis is associated, would of course greatly exceed the limits of this paper.

In consequence of the matting together of the pelvic organs by adhesive inflammation, the exact seat and starting-point of the inflammatory process cannot be decided by the ordinary means of pelvic exploration. Fortunately, the indications for operative interference are so unmistakable that such exactitude in diagnosis is not essential for proper treatment. The localized pain, the fixation of movable organs, the exudation, and, when pus has formed, the rigors, fever, and emaciation, are signs too positive to be overlooked by the experienced attendant. When the means that I have indicated fail to secure resolution, and septic symptoms present themselves, we may know that the only treatment is to open the abdomen, evacuate the pus, remove the inflammatory mass (usually Fallopian tube and ovary), cleanse the peritoneum, and establish drainage. Where the disease has gone on to suppuration, the surgeon has no option. The only course worthy of consideration is thorough removal of inflamed, suppurating, and degenerated ovaries and tubes, of which pelvic peritonitis is the result. Equally is it the surgeon's duty to operate in those cases in which the diseased tubes and ovaries, one or both, can be made out by the touch upon the side of the uterus, accompanied with pain and the familiar functional derangements incident to diseased states of the tubes and ovaries. I am presuming, of course, upon discriminating knowledge on the part of the physician. To operate early, before adhesions become organized and the inflammatory area extends, and before pus forms and the system is infected, simplifies the operation, enhances the patient's chances of recovery, and abbreviates suffering.[1] In illustration I may mention hydro-salpinx and hæmato-salpinx as prone to purulent change.

When bands of false membrane have imprisoned the Fallopian tubes and ovaries, with the consequent alterations of structure already described; when the tubes are in a state of constantly recurring inflammation, with functions destroyed and secretions retained; when the ovary has become cirrhotic or undergone caseous degeneration; when the patient is a miserable invalid and opium habitué; then these organs should be removed and the patient restored to health, home, and society. In cases of limited pelvic inflammation, careful discrimination is necessary in deciding upon operative treatment.

For accurate diagnosis an experienced tactile sense and repeated examination are required. Many cases of intra-pelvic inflammation of lesser grade are improved, and some few cases cured, by the hot douche, the application of iodine and glycerine, the supporting tampon, and rest; but the larger class of cases, in which the inflammatory process has been more active and extensive, are incurable without operative interference. Moreover, women dependent upon their own labor for a livelihood, and those of meagre pecuniary resources, are unable to indulge in months of palliative treatment for temporary relief. To those of us who have dealt with cases of long-standing pelvic inflammation at the operating-table, and shelled out diseased tubes and ovaries from a mass of organized exudate, the cures claimed for electricity in such cases are difficult to accept. When treated upon sound surgical principles, by abdominal section, the results are good, the cures permanent, and restoration complete.

[1] Operation by abdominal section should invariably be adopted in preference to puncture of Douglas' space through the vagina.

## BRIEF MEMORANDA IN PRACTICAL OTOLOGY.

By ALBERT H. BUCK, M.D.,

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AMONG the cases which I have seen in private practice during the past few weeks there have been two which seem to me to present features sufficiently interesting to warrant their publication in a medical journal.

A lady, about fifty years of age, and almost entirely deaf in her left ear, reported that she had suffered for a long series of years from an almost constant discharge from the right ear. At times this discharge had been so slight as to lead her to believe that it had ceased; in point of fact, however, it had simply at these periods become too scanty to actually flow out of the ear. The hearing had been variable; sometimes she could hear so well that nobody would suspect the existence of any deficiency in this respect, while at other times her deafness would be very marked, lasting sometimes for days together. Latterly there had been more discharge than usual, and the duration of the period of marked deafness had been unusually long. On one or two occasions, during this period, she had experienced a sensation as if some obstacle had been suddenly removed from the right ear—practically the only ear with which she can hear—and then, for a few minutes, she had been able to hear, as she thought, perfectly well. An examination with speculum and reflected light revealed the presence of a small quantity of muco-pus covering the apparently unbroken surface of a red and thickened membrana tympani. On closer scrutiny a barely recognizable irregularity of the surface was noted in the posterior superior quadrant. At this spot the tissues appeared to be more succulent than elsewhere on the surface of the membrane. In no other respect did this part of the membrane seem to differ from the surrounding parts. By manipulating the tissues at this suspicious spot with the end of the slender middle-ear probe it was readily ascertained that the membrana tympani was perforated at this point and that granulation-tissue filled the recess beyond, *i.e.*, the entrance to the mastoid antrum and the depression corresponding to the fenestra ovalis. By forcing a small pledget of cotton into this opening I was able to press back the granulation-tissue to such an extent that a visible recess or opening appeared where a moment before there was simply an irregular granulating surface. The moment I had withdrawn my probe, armed with a pledget of cotton, the patient exclaimed, "Now I hear your voice and the sounds in the street perfectly well!"

The therapeutic problem involved was simply this: The removal of the cushion-like mass of tissue which prevented outside sounds from making a sufficiently powerful impression upon the stirrup. As the granulation-tissue could not be isolated, and consequently could not advantageously be removed by means of Blake's fine wire snare, I was compelled to resort to the use of a caustic, viz., silver nitrate, in the form of a small bead of the pure salt fused upon the end of a slender middle-ear probe. Three such cauterizations were made, at intervals of about forty-eight hours, and then injections of a weak silver-nitrate solution (five grains to the ounce of water) were made on alternate days, through the opening in the membrana tympani, into the mastoid antrum; the glass middle-ear pipette being used for this purpose. By way of supplementary treatment the patient cleaned the canal thoroughly, three times a day, with tepid water introduced into the ear by means of an Angelo's ear-douche.

In the course of two weeks the inflamed mucous membrane of this part of the middle ear had so far recovered its natural healthy tone that all discharge had practically ceased, and the patient was once more able to hear well continuously.

The second case, of which I desire to give a brief account, occurred in the person of a physician residing in this city. He consulted me on account of a very unpleasant sense of fulness and pressure in the region of the right ear, associated with an increase of his more or less habitual naso-pharyngeal catarrh, and with very slight impairment of the hearing. These symptoms had troubled him for about two weeks. Examination with the speculum and reflected light revealed the existence of a noticeably sunken and slightly congested drum-membrane. The use of a Politzer's inflation apparatus afforded only momentary relief. The diagnosis was, clearly: Obstruction of the right Eustachian tube, due to catarrhal swelling of the mucous membrane of that region. The treatment consisted in painting the vault of the pharynx, and especially the vicinage of the right tubal orifice, three times a week, with a twenty-grain solution of silver nitrate; and at the same time the patient was advised to abstain from smoking tobacco during the course of the treatment. At the end of two weeks he reported that his right ear felt exactly as uncomfortable as it did before treatment was begun, and that, too, despite the fact that a very noticeable diminution had taken place in both the redness and the degree of swelling of the visible fauces. He called my attention, however, to one or two phenomena which he had observed, and which led him to think that a neurotic element played a part in his troublesome symptoms. For instance, he had observed that the pressure of the steel arm of his spectacles upon the skin of the right mastoid process greatly intensified the sense of fulness in the affected ear. There were other things still which, as he had discovered, would produce the same temporary aggravation of this sense of fulness, but I cannot just now recall them. The patient's own idea was that malarial poisoning—from which he had suffered to some extent during recent times—was at the bottom of these nervous phenomena, and in accordance with this idea he began taking ten grains of quinine daily, and continued to take the remedy in these doses until he experienced a slight ringing in the right ear. By this time he had taken ninety grains in all. The effect of the quinine was very marked. The sense of fulness and pressure rapidly grew less, and disappeared entirely on the fourth or fifth day. The sinking in of the membrana tympani became so slight that it could be barely recognized. Furthermore, the patient had lost all traces of the depressed state of mind which constituted one of the features of the disease in its earlier stage.

A few comments may not be out of place in connection with these brief histories.

In the first place, I may be permitted to remark, in connection with the case of otitis media purulenta, that simple inspection of the drum-membrane, no matter how brilliant the illumination of this region may be, cannot always suffice to furnish us with a true and complete pathological picture. Inspection conjoined with careful manipulation of the parts is absolutely essential, in certain cases, to the correct determination of the nature, location, and extent of the disease. In this particular instance, the undisturbed picture presented to the eye of the observer was thoroughly misleading.

The second thought suggested by the case under consideration is the fact that sudden and very marked changes in the power of hearing (in one ear) imply alterations in the mechanical relations of the stirrup. I am confident that alterations at the round window (*i.e.*, in or around the secondary tympanic membrane) influence the hearing power far less potently than do those at the oval window. A pad of granulation-tissue or of greatly hypertrophied mucous membrane is competent, in the absence of the anvil, to so greatly diminish the intensity of the sound-impulses which reach the stirrup that the corresponding ear can hear only the loudest tones. But if the anvil and the stirrup still retain their connections, the same mass of tissue will probably diminish the hearing-power only slightly. In the present case no trace of the long process of the anvil could be found, and the stirrup was therefore entirely shut off by the surrounding mass of soft tissue from the direct impact of waves of sound entering by way of the external auditory canal. There is another class of cases which in all essential features closely resemble the one described above, but in which the removal of the obstructions existing around the stirrup fails to establish that acuteness of hearing which from time to time so startles and delights the patient. How are we to interpret the marked spontaneous improvement which takes place in the hearing power in these cases? In my efforts to explain it I have assumed the momentary pressure of some moderately hard substance (like a flake of epidermis or a mass of hardened secretions) upon the head of the stirrup—in a word, the establishment, for a few moments, of a sort of artificial drum-membrane. Acting on this theory, I have applied all sorts of wooden, metal, and dried elder-pith contrivances in contact with the head of the stirrup, but I have never once succeeded in reproducing artificially one of these brief intervals of acute hearing.

In regard to the second case, I may remark that the part played by malaria in weakening the inhibitory power of the vaso-motor nerves supplying the mucous membrane of the nose, throat, and ear is something new to me. The discovery of this peculiar relationship, it has probably been remarked already by the reader, was made not by myself but by my patient. I have no doubt that many of my fellow-specialists have experienced the same difficulty in their own practice, viz., the tendency to give undue weight to the purely local causes of disease.

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## WHY PHYSICIANS SHOULD CULTIVATE PHOTOGRAPHY.

By BOARDMAN REED, M.D.,

ATLANTIC CITY, N. J.

AMATEUR photography is just now much in vogue, and it is cultivated more by physicians than others. There are good reasons for this. The education of the medical man, if thorough as it should be, fits him well for the "black art." He is, of course, familiar with chemistry, and ought also to be conversant enough with physics and mathematics to master the intricacies of lenses and the calculation of their equivalent foci.

But even without going at all into the science of it, the busy doctor may find photography a useful help in his everyday work, as well as one of the best of all possible out-door recreations for his vacation season. Like gunning, it lures its votary out into the fields, along the hillsides, and by the running brooks. Unlike that rougher and more ancient sport, however, it does not lead him through thorny thickets, or, at unchristian hours, through tall, dew-laden grass and miasmatic swamps, thus risking an exchange of his dyspepsia for rheumatism and malaria; but rather tempts him to select for his outings the pleasantest parts of sunny days, and permits him to pick his way by unobjectionable paths to the most picturesque and romantic bits of scenery in his neighborhood. The exercise and zest are much the same; but, apart from the effects upon the health, the amateur photographer has usually something better to show for his day's tramp. Supposing that he has acquired a fair amount of skill, he will be sure of at least one or more pictures which may sometimes be really things of beauty, and will then be joys forever. The gunner, on the other hand, however experienced, may not find any game, or, finding it, may fail to hit it; and even when he is most successful the net results of his day's sport are promptly eaten, and thereafter exist in memory only.

Then there is the ethical side of the question—the im-

memorial tendency of hunters and anglers to stretch the truth, while photography conduces to literal exactitude in all respects—but the contrast need not be pursued further.

Turning now to the practical value of photography to the physician, there are good reasons why every one of us should own a camera and know how to use it. By means of the magnesium flash-powder and the extremely sensitive dry-plates now in use it is not difficult for any person, after a few hours' instruction, to make a passably good negative in an office either by day or night. In this way cases of facial paralysis, spinal curvature, hip-joint disease, and marked skin disease, or any form of bodily deformity can be easily photographed by an instantaneous process, and thus the best of all records be kept of them for future reference.

And for those who devote themselves largely to microscopy, photography opens up an almost boundless field, enabling them to fix in enduring forms the magnified representations of the specimens studied by them.

Moreover, lessons of value are to be learned from even the technique of photography. For example, plates that are exposed too long, as well as those exposed for too short a time, make weak, unsatisfactory negatives. In like manner we find that overfeeding as well as underfeeding may debilitate a patient, rendering him ultimately weak and unfit for severe exertion.

The writer feels himself deeply indebted to photography for one highly important lesson in hygiene, that is, the relative value of out-door sunshine as compared with the diffused light of an ordinary room. Most persons would say that the outside light is two or three times as strong as that within our houses. But the ratio of difference is vastly greater. Carefully prepared tables show that for a view at the sea-shore, comprising sea and sky mainly (with a lens and plate of a certain speed), an exposure of one-tenth of a second is sufficient. An open landscape away from the sea would, with the same lens, the same aperture, and the same plate, require one-third of a second. A fairly lighted interior would require two and one-half minutes, while a badly lighted interior—such as the rooms which most ladies prefer to occupy—would require half an hour to obtain an equally good picture. In other words, patients strolling on the sea-shore in sunny weather are in a light not two or three times, but eighteen thousand times, stronger than that in the ordinary shaded and curtained rooms of a city house; and the same patients walking along the sunny side of a street are receiving more than five-thousand times as much of the health-giving influence of light as they would receive in-doors in the usually heavily curtained rooms.

No wonder such miracles are wrought by sending our sickly human house-plants to the country or mountains, or to the sea-shore, where the stronger sunlight, the purer air, and the invigorating salt-water all combine to revivify the vital forces!

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Cocaine Hallucinations.—MM. Magnan and Saury report three cases of hallucination due to the cocaine habit. One patient was always scraping his tongue, and thought he was extracting from it little black worms; another made his skin raw in the endeavor to draw out cholera microbes; and a third, a physician, is perpetually looking for cocaine crystals under his skin. Two patients suffered from epileptic attacks, and a third from cramps. It is important to notice that two of these patients were persons who had resorted to cocaine in the hope of being able to cure themselves thereby of the morphine habit, an expectation which had been disappointed. For more than a year they had daily injected from one to two grammes of cocaine under the skin, without, however, giving up the morphine injections, which were only reduced in quantity. The possibility of substituting cocainism in the endeavor to cure morphinomania is a danger, therefore, which must be carefully held in view. *British Medical Journal.*

# Clinical Department.

## LARGE ŒDEMATOUS MYOMA—HYSTERECTOMY—RECOVERY.

By NEIL MACPHATTER, M.D.,

DENVER, COL.

The recording of the ordinary cases now met in abdominal surgery has long since ceased to be of more than passing interest to the gynecologist. What, however, appears to me to be an interesting case, on account of the difficulties of making a positive diagnosis and at the same time illustrating the fact, not too urgently insisted upon, that it is absolutely impossible to tell beforehand what complications may be encountered in the removal of abdominal tumors. The point advocated by those surgeons, that tumors having adhesions can be distinguished from uncomplicated ones has not received sufficient proof. Upon the other hand I maintain, from what I have seen in this branch of the profession, that absolute accuracy in the diagnosis of complications cannot be attained before opening the abdomen. Without compunction I can even go further and say that accuracy in the diagnosis of tumors is far from being perfect, let alone the complications which may or may not be present. Only the novice or the ignorant assert otherwise. A case illustrating in a remarkable manner the points I have advocated came under my observation some time ago. Believing it to be of sufficient interest to the profession, I bring a *résumé* of it before your readers.

On June 15th last, while in the East, I received from Dr. William Gunn, of Clinton, Canada, a letter stating that a patient of his had a tumor that had been growing for several years, and as she was gradually losing strength, wished to know if I would go over and operate. I replied in the affirmative, and a few days subsequently received a telegram to come on. On account of the delay of trains I arrived too late to operate on the day I had appointed. I received the following history of her case: Mrs. C——, aged forty-two years, married twenty-one years, the mother of five children, having her last ten years ago, had never been well since the birth of her last child. She experienced a dragging sensation and periodical attacks of pain in the lower part of the abdomen. These symptoms continued, and five years ago she noticed a lump in the region of the womb. There were added now feelings of pressure upon the rectum and bladder. The attacks of pain became much more severe, and were occasionally attended by febrile symptoms. I attach particular importance to this latter symptom, as accounting for some of the complications which were encountered at the operation. The tumor had gradually increased in size until it now filled the whole abdominal cavity. She was thin and worn-out looking, and had a drawn, pinched expression of suffering on her face. Dr. Gunn had remained in doubt as to what kind of a tumor it was, and upon examination I soon found he had good reason for his uncertainty. The tumor filled the whole abdominal cavity and was uniformly round and smooth, presenting every feature of an ovarian cystoma. The fluctuation was quite distinct in every direction. From the fact that the uterus appeared to be intimately associated and apparently implicated in the enlargement, and the knowledge that the sound could be passed full length into the uterus, I concluded and was inclined to believe the tumor to be a myoma of the soft œdematous variety, and that hysterectomy would be necessary. The almost constant feature of hemorrhage that accompanies myoma was absent, and the doctor had passed a hypodermic needle and drawn fluid from the tumor, so there were many reasons for hesitancy in pronouncing upon an absolute diagnosis. I had, however, seen a number of such cases so that I inclined to the belief of œdematous myoma, although I was in no way positive.

I have now come across a sufficient number of the

soft œdematous variety of myoma to make me believe they are much more common than is generally acknowledged. Space will not allow me here to go into the full details of this interesting subject, further than to say that there are two varieties of myoma, the hard multinodular kind, and the rapidly growing soft œdematous variety. They are both quite distinct in their history, symptoms, appearance, pathology, and treatment. The soft œdematous kind simulates ovarian cystoma and pregnancy so closely that it is often difficult and impossible to distinguish between them. Indeed, I have upon two occasions seen one of our most brilliant English surgeons in a quandary, even after the abdomen was open and the tumor exposed to view. The uterine tissues frequently envelop and surround the tumor exactly as in pregnancy. This variety appears at any period of life from puberty to old age, and does not arrest its growth at the menopause as does the other variety. This proves that the soft œdematous myoma is a condition that is not in any way affected or influenced by menstruation, and therefore we cannot expect it to gradually diminish and disappear after the climacteric, nor is the removal of the appendages of any avail. Hysterectomy is the only remedy for these cases. The hard multinodular variety, on the other hand, should never be mistaken for ovarian cystoma or pregnancy, and is a disease entirely of menstrual life, coming on usually between the ages of twenty and forty years. It has no fluctuation, and does not grow so rapidly nor to such a size as the other. It is influenced wholly by menstruation, and begins to diminish, and gradually disappears after the advent of the menopause. When the hemorrhages that accompany this variety are so frequent and profuse as to threaten life before the climacteric comes on the removal of the appendages is clearly indicated, although it is sometimes very difficult to find them on account of the size of the tumor.

The next morning at 9 A.M. I proceeded to operate. There were present Dr. Gunn, who assisted, Drs. Worthington and Williams, of Clinton, and Dr. Elliott, of Brucefield, who administered the anæsthetic. On the incision being made through the parietes I discovered that it was an œdematous myoma, and I proceeded to do hysterectomy. The incision was extended upward when I discovered the tumor was intimately adherent everywhere, I passed my hand and forearm in and broke up as many as I could. With a corkscrew inserted into the tumor I drew it out as far as adhesions would allow. These were broken down and making another effort to draw the tumor out, I found the transverse colon, small intestines, and omentum tightly adherent at the top. After a good deal of tearing I succeeded in getting them liberated, although there was considerable bleeding. Parts of the omentum that appeared gangrenous I tied and cut away altogether. When I had the adhesions all liberated and the tumor drawn out of the incision the whole of the peritoneum on the back part of the abdominal cavity came away with it. The right ureter was attached about six inches along the tumor and was drawn completely up out of the cavity. After careful dissection it was set free but found to be about twice its normal length from the zig-zag way it was incorporated in the tumor. When dropped back it lay like a coil of small rubber tubing. I examined the corresponding kidney for enlargement but as far as I could judge from feeling there was no pathological condition. I have seen several hundred abdominal sections, but never before met with this complication. The muscles along the back and pelvis, the left ureter and vessels were quite bare. The arteries could be seen pulsating quite distinctly. There was a great deal of general oozing everywhere. Many of the points were tied, others were controlled by forceps and hot sponges. To make it complete the bladder was adherent in front. I was obliged to cut the peritoneal covering above the fundus in a horizontal manner and then peel the bladder down. The bleeding from this was scarcely worth mentioning. A temporary clamp was passed around the tumor near its base, and tightened. This controlled all hemorrhage from the broad ligaments and rendered the subsequent steps of the operation more easy. The tumor, including uterus, ovaries, and tubes, was now cut away close to the temporary clamp. The permanent serre-nœud was now substituted for the temporary one and screwed as tightly as advisable. The staple was passed through close to the cervix, and all redundant tissue above this trimmed off. The general bleeding was still very considerable and took some time to properly check, as many clots as possible were swabbed out with sponges and the whole abdominal cavity most completely washed out. The abdominal incision was next stitched up and brought to fit as closely as possible around the pedicle. There were so many ragged edges from torn adhesions that I deemed it advisable to put in a drainage-tube. It is fortunate I did so, as there was considerable discharge sucked up by the syringe for nearly three days. The stump was thoroughly cleaned and ordinary dressing applied over a saturated solution of perchloride of iron and glycerine. The patient was placed back in bed and rallied remarkably well from the shock. Hot bottles were packed about her and enemas of beef-tea and brandy given at intervals. This had a beneficial effect, the pulse gradually becoming slower and of better volume. During the first night she was very restless and complained of pain and a sinking, smothering sensation in her chest, this was probably owing to the effects of the anæsthetic and the balance of circulation being upset. The following morning she expressed herself as feeling more comfortable but very nauseous. This tendency to vomit continued for some time and was a very troublesome feature in the after-treatment. I am indebted to Dr. Gunn for a full report of the after-treatment and I desire here to write of the excellent arrangements he had made for the operation and my appreciation of the skilful manner in which he continued the case afterward.

Notwithstanding the numerous adhesions that were broken up, and the large area of raw surface that was left, the temperature remained normal for eight days, when, owing, no doubt, to stitch abscesses, and the sup puration accompanying the sloughing process about the pedicle, it went up slightly and ranged from normal to 101½° F. This good result I attribute largely to the manner adopted in washing out the abdominal cavity, and drainage. Thanks to the genius of Lawson Tait, the abdomen can now be cleaned of all clots and *débris*.

The urine was drawn off for four days, and the bowels moved by an enema upon the fifth. The stitches were removed on the sixth and ninth days. On the fourth day Dr. Gunn cut the wire of the serre-nœud and withdrew the handle, leaving the wire to come away with the pedicle, which sloughed off on the twelfth day. On the thirteenth day a well-defined lump could be felt on the right side of the pedicle. Suspecting pus or blood, Dr. Gunn made an opening into it, and evacuated a considerable quantity of both blood and matter. The history from this out was not marked by anything of importance. The wound gradually healed up, and the patient recovered completely. I have just received a letter from Dr. Gunn, wherein he says: "The patient feels perfectly well in every respect. It was an interesting case, showing the difficulties of making a diagnosis, the size of the tumor, and especially the fact that she recovered."

What would have been a disastrous accident was narrowly escaped during the operation. There were so many adhesions of all sizes attached to the growth as I drew it out, that I at first did not recognize the ureter as such, and was almost in the act of breaking it down with other stringy bands of adhesions, when I noticed the peculiarly rounded and uniform size to be the organ. It was marvellous how it escaped being torn when drawn out with the tumor, as it was on extreme tension. After liberating it, I felt not a little uneasiness lest its lumen be occluded, and disease of the corresponding kidney would result, necessitating, at a subsequent date, an operation for its

removal. From the fact that I could detect no enlargement of the kidney at the time, and that no symptoms relative to it have since appeared, I have reason to believe the ureter to be fulfilling its functions properly.

Here I would like to say that I cannot imagine intestines, be they ever so intimately attached to a tumor, providing, of course, they are not gangrenous from pressure or want of blood-supply from the mesentery, but what they can be, with a little patience and care, liberated. I say this to particularly mark my disapproval of a method that was recently pursued in a similar case in one of the London hospitals. In that instance the operator found intestine that was not gangrenous adherent to the tumor, and instead of liberating it in the usual manner, and because, as he said, of the numerous experiments he had recently been making in intestinal surgery on dogs, he cut the intestine through in two places and sewed the ends together, only to find, as might be expected, a few days subsequently, that the bowel ruptured at the seat of union, or rather non-union, and set up fatal peritonitis. Here is the statement as reported by the operator himself: "I then found that a portion of the intestine was so intimately incorporated with the growth that it was found impossible to detach it without tearing the bowel or detaching some of the growth. Under these circumstances, guided by experience of numerous experiments I had lately made in intestinal surgery, I determined to cut away all the intestine implicated, and join the two ends together." At the post-mortem it was discovered that the rubber ring used did not pass down but remained as an obstruction; "then the rubber ring had acted more or less as a valve, and prevented the fæces from passing. This caused distention of the gut above the seat of operation; ulceration along one of the ligatures, perforation, peritonitis, and death." Such work as this will surely not enhance the welfare of the profession, but is absolutely damaging and discreditable. No operator should forget his duties in such an emergency when the results are weighed against the slim chances hinging upon the knowledge gained from experimenting upon the intestines of dogs. The results of experiments, especially upon the intestines of dogs, are fraught with danger when applied to abdominal surgery.

Steele Block, Sixteenth Street.

## Progress of Medical Science.

Death from Sublimate Irrigation after Abortion.—Seven years since, Tarnier introduced the practice of washing out the vagina with weak corrosive sublimate injections. The results proved satisfactory, and the injections came into vogue in German and English, as well as in French, lying-in hospitals, extending freely into private practice. Like every thorough method of counteracting deadly agencies in the human organism, sublimate irrigation is not free from danger, and although it greatly reduces the death-rate and proportion of puerperal fever cases in long series of labors, some cases of mercurial poisoning will occur in those series, notwithstanding the most careful administration of the remedy. In England, Drs. Dakin and Boxall have published very minute observations on mercurialism under the above-noted conditions. They appeared in the *Transactions of the Obstetrical Society* for 1886 and 1888. Dr. Legrand read before the Anatomical Society of Paris, in April, a case of twin abortion, retained placenta, and death from acute mercurialism. Between the birth of the first and second child, ten quarts of a 1 to 2,000 solution of sublimate were employed to wash out the uterine cavity, twice, at an interval of three hours only. Immediately after each injection of sublimate a two per cent. solution of boracic acid was thrown up into the uterine cavity; but sublimate had been several times employed for vaginal injection. After the extraction of the second child the boracic solution was injected into the uterine cavity. The intrauterine injections were discontinued, and boracic and carbolic solutions were used for the vagina. A day later gingivitis, salivation, colic, and dysentery set in, and carried off the patient in five days. The kidneys were large, pale, and very œdematous; they contained mercurial salts in solution. The palate was ulcerated; the œsophagus, stomach, and small intestine healthy. The mucous membrane of the entire large intestine was covered with eschars and ulcers, most marked on the summits of rugæ. The ulcers began in the cæcum, were least abundant in the transverse colon, and most marked toward the anus. The above conditions have been noted in many other cases of death after sublimate irrigations in childbed. The kidneys were diseased. Keller, of Berne, has already pointed out the danger of mercurial irrigation when these organs are not healthy. The English authorities just quoted both dwell on this danger. Dr. Legrand relates that the ulcerated intestinal mucosa swarmed with bacteria. This fact, he adds, must make us despair of insuring intestinal antisepsis by means of corrosive sublimate.—*The British Medical Journal.*

The Operative Treatment of Tubercular Peritonitis.—Dr. F. Spaeth has reported four cases of tubercular peritonitis, treated by laparotomy, in Dr. Prochownick's clinic in Hamburg. The patients were all females between the ages of thirty-two and forty-three (*The Annals of Surgery*). The symptoms differed greatly in the four cases, but in all the inguinal glands on both sides were considerably enlarged. In every case tubercle bacilli were found. The author thinks this very important, for many cases of chronic disease of the peritoneum, which at first sight appear to be tubercular, are found on microscopic examination to be nothing more than a peritonitis with a nodular formation, a simple lymphoma of the peritoneum. To these errors of diagnosis may be attributed in some cases the unsuccessful results of laparotomy. So far little attention has been paid to the demonstration of tubercle bacilli in the excised pieces. Thus in forty-one of Kümmel's cases the results of the microscopical examination are only mentioned in eleven cases, and in only five of these were bacilli reported present. Of the writer's cases, one died of collapse five days after operation, to which condition a marked atrophy of the kidney contributed in a large degree. The second case died of acute phthisis three months after operation. The third case died of intestinal tuberculosis, and the fourth is now dying of the same disease. The unfavorable results cannot be attributed to the operation. The author terminates his paper with the following conclusions: 1. In primary tuberculosis of the peritoneum without implication of other organs, laparotomy may act as a curative agent and is to be recommended. 2. In tuberculosis of the peritoneum, where the female genitals are involved in the process, the operative treatment has not given any satisfactory results. 3. In tuberculosis of the peritoneum due to a tubercular enteritis, the operative treatment is only palliative. 4. In genital tuberculosis, unaccompanied by peritoneal tuberculosis, early radical operation is to be urged. The indications for operation are not readily determined, owing to the almost impossibility of making a bacteriological diagnosis before laparotomy. 5. Primary tubercular peritonitis is a much rarer form of disease than has heretofore been thought. Hence care should be exercised in making a diagnosis, and a bacteriological examination of every case should be made.

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Actinomycosis Hominis.—Dr. L. Ammentorp reports in the *Nordiskt Medicinskt Arkiv*, No. XXIV., four cases of actinomycosis in men—two of the upper jaw, one of the lower jaw, and one of the lung. In this last case the patient had worn a tracheal cannula for several years. The author regarded the case as one due to infection through the inspired air, a mode of transmission of the disease not hitherto recognized.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## PLASTIC BRONCHITIS.

THE literature of this rare disease was reviewed in 1869 by Lebert in the *Deutsches Archiv. für Klin. Medicin.* In the twenty years which have since elapsed somewhat more than fifty cases have been reported. In the *Practitioner*, August, 1889, Dr. West of London gives the results of a careful collation of these fifty odd cases, including one which occurred in his own practice.

In this latter case the patient, a woman, forty years of age, had enjoyed perfect health until she was suddenly attacked, two years before she came under observation, by what seemed to be asthma, the paroxysms becoming more and more frequent until they occurred every twenty-four hours. They were asthmatic in type but without cyanosis, the patient being awakened by the onset of dyspnœa every night at about two o'clock. After the paroxysm had lasted two or three hours free expectoration occurred, and relief was obtained by the patient. The diagnosis of asthma was at length questioned, because of the sudden onset of the paroxysms only two years before and because of the remarkable periodicity of the attacks, and plastic bronchitis was suspected. Upon examination of the sputum, this suspicion was confirmed by the discovery of small but numerous bronchial casts, grayish-white, mucoid in appearance, much ramified, the largest being as thick as a goose-quill and two and one-half inches long. There had been no hæmoptysis, there were no abnormal signs upon examination of the chest, the general health was fair, there was no fever or night-sweating, but some depression from loss of sleep. Various drugs were used without effect, and after six weeks' treatment the patient was discharged as ill as ever.

In the review given by Dr. West of the whole subject many important facts concerning this strange disease are developed. It occurs at all periods of life, but is more frequent in middle-aged males. It is characterized by the occurrence of paroxysms of dyspnœa and cough, which cease at once upon expectoration of the casts. The paroxysms are usually preceded and followed by a sort of catarrh. Hæmoptysis may be absent, or it may be very serious. It generally ceases at once with the ejection of the casts. There is usually but little pain, except that which is caused by coughing. In acute cases the temperature may rise to 104° F., in chronic cases it is not often above normal. Sometimes the onset of an attack is marked by one or more rigors, which may be so severe as to suggest pneumonia. As a rule each attack consists of a number of short paroxysms. It may subside after a few days, never to recur, or it may last continuously for as long as ten years, or it may be repeated at regular intervals (as at each menstrual period). Cases have been reported in which more than ten years have intervened between the attacks. The disease is seldom fatal, but death may occur from other antecedent or intercurrent diseases.

Plastic bronchitis is associated in a few cases with phthisis. Sometimes it appears a few weeks after recovery from pneumonia. Pleurisy may be coincident with it. Syphilis is sometimes present. Occasionally it follows scarlatina or typhoid fever. In four cases it was accompanied by severe diseases of the skin—pemphigus, impetigo, and herpes zoster. Pregnancy may cause cessation of the attacks.

The diagnosis of plastic bronchitis is possible only upon the expectoration of the characteristic casts; but besides this it is necessary to exclude pneumonia on the one hand, and croup or diphtheria on the other. Those cases only are to be classed as plastic bronchitis where the paroxysms with this peculiar expectoration occur in the absence of pneumonia, or where they follow pneumonia after several weeks' interval, or where they exist for some time before pneumonia (which in this case is probably caused by them) sets in. Cases must also be excluded in which the casts are formed in the course of croup or diphtheria. The physical signs in uncomplicated plastic bronchitis are very indefinite. There are usually evidences of chronic catarrh; but the rhonchus and sibilus may be limited to the region about the cast, and sometimes an evident obstruction to the tubes in some part of the lung may disappear when the cast is expectorated. Dulness at the base behind may be due to collapse or pneumonia.

The expectoration is muco-purulent and varies in quantity. The casts are formed of fibrin deposited in concentric laminæ. Amid the fibrin are enclosed small cells, a few epithelial cells, and sometimes ciliated epithelium. The casts are branched; the smallest branches solid, the larger perhaps with a central lumen. Sometimes only one cast is expectorated in two or three days, at other times, or by other patients, very many may be coughed up each day. Often the casts are very much more abundant at night. There is no specific treatment for the disease. Inhalations, especially of lime-water, are much praised, but it is doubtful whether they really do good. Iodide of potassium is the only internal remedy generally recommended by those who have treated these cases. Sometimes complete cure has followed its use, and often partial relief has been reported.

## GALACTOCELE TESTIS.

COLLECTIONS of milky fluid in cysts, or in the natural cavities of the body, are now and then reported in our medical journals. In some cases the fluid is found, upon microscopic examination, to contain the *Filaria sanguinis hominis*, a parasite which causes also chyluria. Of this nature, probably, are the cases of hydrocele observed in tropical regions, in which the fluid drawn off by the surgeon is white like milk. The diagnosis in such cases is readily made when the fluid is placed under the microscope, the microscopic field being crowded with the characteristic parasites.

In other cases collections of whitish fluid in the scrotum are found, upon examination, to contain semen. This semen is sometimes normal, being full of vigorous, quickly-moving spermatozoa; sometimes it contains tailless spermatozoa, the true nature of which may be determined by staining with hæmatoxylon, etc.

The cysts which contain this seminal fluid are developed in connection with the epididymis, and may be of great capacity, containing as much as twelve ounces of the milky fluid. This seminal fluid is not found in the cavity of the tunica vaginalis, although it is possible that the cysts formed about the epididymis may burst into that cavity.

In the *New Orleans Medical and Surgical Journal*, September, 1889, Drs. Cocram and Miles report a case of milky fluid in the cavity of the tunica vaginalis which seems to belong to a hitherto undescribed class.

The patient applied at the hospital, suffering apparently from some serious nervous trouble. He was hypersensitive, and very much excited, losing control of speech when questioned, and unable to fix his attention upon any subject. He stated that, three months before, he had observed a swelling of the scrotum, and that this swelling had steadily increased. Examination showed a tense scrotal tumor, containing at least a pint of fluid. Desiring to confirm his diagnosis, the surgeon introduced the needle of a hypodermic syringe. Much to his astonishment, an opaque liquid of about the color and consistency of milk was withdrawn. Upon microscopic examination by a pathologist the liquid was found to contain a great multitude of light, almost transparent, granules, which were all in very active motion. These could not be fat-granules, because they did not refract light strongly and because they had the Brownian movement. Three cover-slips smeared with the fluid and dried (according to the method used in searching for bacillus tuberculosis) were stained, one with magenta (Ziel's solution), one with methyl blue (Loefler's solution), and one with hæmatoxylon. Instead of becoming fixed and stained, and appearing as distinct points, as bacteria would have done, the granules were now replaced by large films of coagulated or hardened albuminous matter, like the streaks of mucus seen in staining sputum. Furthermore, the fluid was odorless, whereas if it had been thronged with bacteria it would have been fetid. The pathologist was of the opinion that the granules were particles of albuminous matter (non-reproductive), having the Brownian movement.

A second examination of the tumor was made five hours after the first, when it was found that it had diminished during this time, by two-thirds its original capacity. It was now loose and flabby, conveying to the touch a gelatinous sensation of redundant tissue. The fluid was evidently contained in the cavity of the tunica vaginalis. Next morning the scrotum was nearly normal in size. The patient was dismissed cured twenty-four hours after admission, no treatment except the single hypodermic puncture before mentioned having been used. Five days later the fluid was still diminishing. There was the same gelatinous feeling, but somewhat firmer.

The tumor had developed like a hydrocele. Throughout its course there was no constitutional disturbance. It was not due to chylous ascites, for there was no communication between the cavity of the tunica vaginalis and that of the peritoneum. As far as the writers knew, it was a unique case.

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## THE "BELLY-DISORDER" OF CHILDREN.

THE announcement of a new disease, and especially a new disease of children, will, in this day, be received with some incredulity. Dr. R. A. Gibbons, of London, states (*Edinburgh Medical Journal*, October, 1889), that "the cœliac affection of children" is a disorder which has not been described in text-books, but is one of great importance, for the disease, though not very common, ought always to be recognized. The name "cœliac affection" is bad enough, for it means only an affection of κοιλία, the belly. As the pathology of the disorder, however, is unknown, a name indicating nothing specific may serve the purpose for the present.

The cœliac affection (*anglice*, belly-trouble) of Dr. Gibbons, is the name for a disease which in hospitals is sometimes spoken of as consumption of the bowels. It occurs in children between the ages of one and five years, and its striking peculiarity is that, despite its severe and often fatal course, no lesions are found post-mortem.

The onset of the disease is usually gradual. The child becomes pale and anæmic. Perhaps the first thing especially noticed is the changed color and fetid odor of the fæces.

This malodor, says Dr. Gibbons, is sometimes overpowering, and those who have not encountered it can hardly realize it. The motions themselves are very large, soft, whitish in color, and frothy. They resemble very much ordinary oatmeal porridge. The actions may be two or three in a day, but usually there is only one large one, and that may take place at a time to which the child is accustomed. Now and then there are attacks of so-called diarrhœa, that is to say, the child may have frequent evacuations of the bowels; that they may be very loose, and that they may be occasionally watery if the attack is severe; but these attacks of diarrhœa are not an essential part of the disease, except in the cases of some children who have these constant attacks of diarrhœa throughout the whole of the illness. The appetite is poor, usually capricious, sometimes large. The tongue is frequently coated with a whitish fur, at other times perfectly clean. In some cases there are attacks of crampy abdominal pain, possibly due to ordinary colic.

The most remarkable symptom, according to our writer, is that of loss of muscular power, with apparently no great loss of flesh.

The progress of the disease is slow, and its termination often fatal.

The diagnosis, according to Dr. Gibbons, presents no trouble. Great stress is laid upon the examination of the evacuations, their fetor, and the absence, ordinarily, of sufficient diarrhœa to cause the severe symptoms.

It is insisted that examination of the bowel and other organs, after death, reveals absolutely no lesion.

The treatment consists in very careful nursing and attention to diet; cream, whey, pounded rare meat, mashed floury potato, are among the articles recommended by Dr. Gibbons.

## News of the Week.

THE AMERICAN ACADEMY OF MEDICINE.—The American Academy of Medicine will hold its Thirteenth Annual Session at Leland's Hotel, Chicago, Ill., on Wednesday and Thursday, November 13 and 14, 1889.—RICHARD J. DUNGLISON, M.D., *Secretary.*

THE ANNUAL MEETING of the New York Physicians' Mutual Aid Association will be held at the Academy of Medicine on Thursday, November 14th, at 4 P.M.

THE LATE DR. ISAAC E. TAYLOR.—The following resolutions were offered by the Board of Obstetric Surgeons of the Maternity Hospital on the death of Dr. Isaac E. Taylor. *Resolved*, That in the death of their late President, Dr. Isaac E. Taylor, the members of this Board have met with an irreparable loss—the loss not only of a faithful and efficient colleague, but of a warm personal friend. *Resolved*, That in his beautiful and serene old age they recognized the noblest type of the good physician, who retired from the active practice of his profession in the fulness of his fame and with the universal love and respect of his associates. *Resolved*, That they extend to the family of the deceased their heart-felt sympathy, and that they will unite with them in cherishing his memory. *Resolved*, That copies of these resolutions be sent to the family and to the medical journals.—HENRY C. COE, M.D., *Secretary.*

A NEW MEDICAL COLLEGE BUILDING.—Work has been commenced on the new building for the Medical College of the New York Infirmary for Women and Children, at the corner of Livingston Place and Fifteenth Street.

NEW YORK CITY BOARD OF HEALTH.—The Board of Estimate and Apportionment has cut down the appropriation for the expenses of the Health Department for the year 1890 from $417,096, the sum asked for, to $391,500. Among the items in which the allowance is reduced are hospital supplies, $4,800, and disinfectants, $3,700. For the present year the total allowance for the department was $413,600.

THE HUDSON RIVER STATE HOSPITAL.—The New York State Hospital at Poughkeepsie has received an appropriation of $40,000 with which to build additional accommodations for the resident staff and one ward for the isolation of infectious or suspicious cases.

THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND is a venerable and highly respected organization with a flavor of antiquity in its name and a suggestion of decadence in its membership-list. The State of Maryland supports over two thousand physicians, but the State Society numbers only two hundred and eight of these. An appeal has been made for larger membership.

EXPERT TESTIMONY AT THE CRONIN TRIAL.—Expert testimony, so called, has received a well-deserved rebuke at the hands of the lay press, in connection with the Cronin trial. The medical evidence produced by the State to prove the identity, injuries, and cause of death in the case of Dr. Cronin was inexcusably stupid. The results of the autopsy are absolutely of no value because of the ignorance or carelessness of the persons conducting the post-mortem. What should have been an exceedingly thorough and scientific examination of the body found in the Lake View catch-basin appears from the evidence produced in court to have been a sort of hit or miss affair, in which various individuals, who, unfortunately for the cause of science, have medical diplomas, took a more or less prominent part. It is just such "free for all" medical examinations with the resulting "expert" testimony that brings well-merited disgrace upon the medical profession before our courts of justice. The necessity of some legal ruling as to who shall be considered an expert is absolutely necessary. The criminality of allowing ignorant and stupid politicians to fill medical offices as a reward for past political defeats is painfully manifest in the present notorious case on trial.—*Medical Standard.*

THE PRESIDENT OF THE NEXT INTERNATIONAL MEDICAL CONGRESS is Rudolph Virchow; the Secretary is Dr. Lazar.

THE CARTWRIGHT LECTURES this year will be delivered by Dr. J. S. Billings, of Washington, D. C.; the subject will be "Vital and Medical Statistics."

THE LATE M. RICORD.—Among the last acts of Ricord's life, says the *British Medical Journal*, was the ascent of the Eiffel Tower, and his death was hastened by his coming from Versailles to Paris to vote for the Republic in very inclement weather. Having to wait on the platform, he contracted a severe cold, and was attacked with double pneumonia. Only a few days before his death, one of his friends, on seeing him, said to him: "*Mais, mon maître, vous avez bonne mine.*" His characteristic answer was: "*Mon ami, je ne vous conseille pas de prendre des actions dans cette mine-là.*" A charming *calembour*, which showed that to the last he retained all the brightness of his inimitable wit and gayety of spirit. His kindness to young men, his generosity to the poor, his hearty welcome and unbounded liberality to foreigners, and his cordial hospitality to all English visitors did much during all his life to render him and his profession popular with all visitors.

BRITISH HYPNOTIC SOCIETY.—It is stated that a number of eminent London physicians have organized a "Hypnotic Society," for the purpose of studying hypnotic phenomena, and securing a law prohibiting public séances of hypnotism, mesmerism, etc.

A DISCUSSION ON HYSTERIA recently took place at the Gratiot County Medical Society, in which a highly interesting profundity and yet diversity of medical opinion was shown. After the reading of a paper on hysteria by Dr. Brainerd, and various comments thereupon, a series of questions was submitted with the following brilliant results—results calculated to send the Gratiot County Society thundering down the ages as the great source of true illumination upon this obscure subject: 1. "Are most of your hysterical patients fat?" Kennedy, "Yes." Carpenter, "No." Scott, "No." Brainerd, "Yes." 2. "Are not the trance cases reported in the papers hysterical?" Kennedy, "Yes." 3. "Is it best to inform the patient that she has hysterics?" Scott, "Yes." Kennedy, "No." Carpenter, "No." Barber, "Yes." Hatt, "Yes." Kennedy: "You'll only offend the patient and freeze yourself out of the case." And yet some people deny the utility of medical societies.

REGULATIONS AND PROGRAMME OF THE TENTH INTERNATIONAL CONGRESS.—The general rules and regulations of this Congress have been sent out by the General Secretary, Dr. Lassar, of Berlin. These relate to the organization of the Congress, and resemble the regulations that have always been issued regarding the meetings. I. The Congress is to open on Monday, August 4, 1890, at Berlin, and to close on Sunday, August 10th. II. The Congress is to consist of regular, licensed (*approbirten*) physicians, who have enrolled themselves as members and obtained members' cards. Other learned men interested in the work of the Congress can become associate members. The cost of membership will be twenty marks (about $4). III. The objects of the Congress are exclusively scientific. IV. The work of the Congress will be done in eighteen sections. VII. The general sessions will be devoted to (*a*) the measures regarding the general regulation of the Congress, and (*b*) addresses and communications of general interest. VIII. Notices of papers to be read and abstracts of them must be sent to the Organization Committee before July, 1890. IX. Written copies of the articles to be read must be sent to the Secretary of the Section before the conclusion of the session. XI. The official languages will be German, French, and English. XII. Communications must be limited to twenty minutes, and discussions to ten minutes. XIII. The sessions will be regulated by generally received parliamentary rules. XIV. Students of medicine and others interested in the work of the sessions can be admitted by securing invitations. XV. Communications or questions regarding the work of the special sections should be addressed to the President of the Section. Other communications should be addressed to the General Secretary, Dr. Lassar, Berlin, N. W., Karlstrasse 19.

MEDICAL PARIS has been interested during the week by the marriage of Dr. Bertillon, the distinguished head of the Department of Medical Statistics for the Department of the Seine, with Mademoiselle Schultz, a lady who passed recently a brilliant examination for the diploma of Doctor of the Paris Faculty of Medicine.

THE TRADE OF MEDICINE IN GERMANY.—A correspondent of *The Occidental Medical Times* writes somewhat gloomily regarding the condition of medical affairs in Germany. He says: "Another serious grievance under which we labor is the definition of the legal code, by which the medical profession is classed, *pro pudorem hominum*, as a trade (*ein Gewerbe*). In Germany, a duly qualified practitioner has, beyond his superior knowledge, positively no advantage whatever from his diploma in the contest with quacks and charlatans. Of course, if a patient treated by a quack takes an unfavorable turn, the case is sometimes inquired into by the authorities, and occasionally the pseudo-practitioner is duly punished. But, on the other hand, if a qualified doctor commits any serious mistake, he undergoes just as severe penalties here as anywhere else. It is only a little while ago since a physician of Lübeck, Dr. Binder, was sentenced to several weeks' imprisonment for an *error artis*, and would undoubtedly have been put in jail, but for a petition to the Senate, signed by some thousands of his friends and patients, craving his pardon. As, furthermore, the *irregular* practitioner has the advantage of being able to advertise and to use other means of attracting patients which are naturally denied to the profession, it very frequently happens that a deluded public lay both gold and glory at the feet of the astute charlatan. And as if this were not enough, there are even clubs which acknowledge a certificate from such autodidacts as equivalent to that of a qualified man. In the new code of civil laws, with which the nation is to be shortly benefited, this state of affairs appears destined to be rendered permanent by the sanction of the highest authorities, for in the paragraphs dealing with the question of remuneration for medical services, the profession is simply classed with artisans, midwives, and all other persons who do work or perform medical services for which they receive payment, *i.e.*, quacks. This degrading paragraph, I am happy to say, has already raised so much righteous indignation that we may hope to see it removed or altered before the final passage of the law. Prince Bismarck, however, in spite of his having experienced so much benefit from Professor Schweninger's application of Oertel's method to his case, was ungrateful enough not to accede to the request of the Physicians' Association, asking for an official inquiry into the legislation on medical affairs, so the profession may look out and shift for itself. The organization of a central body of representatives for the material interests of the faculty, with branch sections throughout the empire, as has recently been instituted under the auspices of the Minister for Science, von Gossler, is therefore all the more welcome and valuable. Although still too young to have effected any material change, it is to be hoped that this arrangement will, in future, be productive of much good."

THE ETIOLOGY OF PNEUMONIA.—Apparently some attention is due to Dr. Henry B. Baker's ingenious theory of the etiology of pneumonia. This theory has been set forth in *Science*, but it has been fortified by statistics elsewhere. Dr. Baker asserts, as a demonstrated fact, that in any given place, wherever studied, pneumonia is quantitatively proportional to the coldness and dryness of the atmosphere; and as this is true for every month of the year, it follows that, if there is any pneumonia which is infectious, it is absolutely dependent upon those meteorological conditions for its action upon the human organism. He further asserts that the expired air in cold, dry weather contains a relative excess of water; hence the lung-tissue is dehydrated, and chloride of sodium accumulates in it. This condition seems to favor the development of the pneumonic infection.

CHRYSAROBIN IN HÆMORRHOIDS.—Dr. Kossobudskii speaks of this drug in high terms, but he differs from Unna in the quantity. Dr. Kossobudskii uses a two and a half per cent. instead of a five per cent. as Unna prescribes. After washing the swelling with a two per cent. lotion of carbolic, or a one per cent. of creolin, he recommends the following ointment to be applied twice or three times a day:

℞. Chrysarobini ..... 0.8
Iodoformi ..... 0.3
Ext. belladonna ..... 0.6
Vaselin ..... 15.0
M.

Or a suppository may be made with cocoa butter. If bleeding be present tannin may be combined. Dr. Kossobudskii affirms that pain, smarting, and bleeding will disappear in three or four days.—*Medical Press.*

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON THEORY AND PRACTICE OF MEDICINE.

*Stated Meeting, October* 15, 1889.

R. C. M. PAGE, M.D., CHAIRMAN.

DR. A. JACOBI read a paper on

### CHRONIC PERITONITIS, WITH SPECIAL REFERENCE TO THE DIFFERENTIAL DIAGNOSIS OF SOME OF ITS VARIETIES.

Primary peritonitis of any kind, he said, was very rare. When it occurred it was mostly the result of wounds, including paracentesis for ascites. Other cases resulted from exposure and cold. Most of the cases, however, were of a secondary nature, with very numerous causes. Thus it might arise under the influence of general diseases, such as rheumatism, alcoholism, scarlatina, measles, malaria, scurvy, tuberculosis, and carcinosis. The inflammation of the neighboring thoracic cavity might be transmitted through the patent stomata of the lymph-ducts on the upper and lower surface of the diaphragm, and disorders of circulation depending on pulmonary and cardiac diseases would result in congestion of the peritoneum, both visceral and parietal, with its possible consequences, inflammation or effusion.

The presence of new-formations in the abdominal cavity acted like that of a foreign body; and in this connection ovarian tumors, sarcoma of the kidney, and swelled pelvic glands associated with irritated and tumefied inguinal and mesenteric glands were referred to. A young woman that he saw dying of acute peritonitis had been affected with purpura for some weeks, and at the autopsy the peritonitis was found to have resulted from hemorrhages from some ruptured vessels of the diaphragm. Floating kidney, by its changing position and irritating contact with the peritoneum, was quite liable to light up a chronic inflammatory process. Other causes of peritonitis mentioned were, affections of the vertebral column and adjoining parts, such as spondylitis, and abscesses of the psoas and iliac muscles and of the acetabulum, and catarrhal and inflammatory diseases of the female sexual organs. The irritation or inflammation of any of the organs contained in the abdominal cavity was liable to produce peritonitis, and intussusception in infants was especially referred to.

Perhaps the most frequent cause of peritonitis was a preceding peritonitis. Indeed, in most cases examined after death the positive proofs were found of one or more attacks previous to the fatal one. Dr. Jacobi said he did not remember a case of perityphlitis that did not exhibit the adhesions, discolorations, and contractions due to former peritonitis; and he thought it probable that there were but few, if any, cases of foreign bodies entering the vermiform process unless the latter had previously lost its elasticity and contractility by an inflammatory change.

Alterations of the mucous membrane of the intestine constituted the initial stages of local peritonitis in many instances, and of general peritonitis in some. It was not only the *intima* and the submucous tissue which suffered, but the muscular layer was also implicated in the morbid process. The vascular connection between the three principal layers of the walls of the intestine was such as to facilitate the transmission of an inflammatory process from one to another, with the result of giving rise to œdematous infiltration, paralysis, and constipation. Thus it was also that a mere diarrhœa was able to develop, in a shorter or longer time, a local peritonitis. No morbid process could remain isolated in a locality supplied with an active blood and lymph circulation, and hence an intestinal catarrh grew to be an enteritis, the enteritis a peritonitis.

This condition of things was still more frequently observed in cases of intestinal ulceration, both acute and chronic. Even without perforation an ulceration would lead to peritonitis which is mostly local, but liable to change into an acute attack under favorable circumstances. Where there was an open ulcer, or even one that had cicatrized months or years before, in the stomach or in the intestine (no matter of what nature), we frequently found opposite it a local peritonitis. In the peritoneal covering there was a thickening, circumscribed and distinct, which in recent cases was rather soft and accompanied by vascular injection. In old cases the original cell proliferation had undergone organization and hardening, and the thickened spot was gray or whitish, and hard. It had lost its elasticity, and was very apt to burst under a moderate amount of pressure, thus leading to perforation. In the midst of apparent health intestinal perforation would often set in, and death ensue within a day; and at the autopsy the physician would learn that the patient had been the victim of the perforation of the cicatrix of a typhoid ulceration, perhaps contracted a dozen years previously.

The diagnosis of chronic peritonitis was frequently missed. Unsuspected adhesions often existed around tumors, movable kidneys became fixed, intestines became glued together, all without recognizable symptoms. In chronic peritonitis respiration was not necessarily accelerated, and particularly was this the case in pelvic peritonitis, perimetritis, and pericystitis. There might be occasional vomiting, especially where there happened to be an intervening acute catarrh; but there were other conditions, as, for instance, renal and biliary colic, which were more liable to exhibit this symptom, and to an excessive degree. It was often entirely absent, and even in many acute cases of peritonitis it was not met with. Constipation was frequent, but diarrhœa was not unusual. The horizontal position was often quite uncomfortable; but a common colic, depending on gas not absorbed or expelled, also caused drawing up of the knees. It was, however, when the horizontal posture was shunned in chronic peritonitis that the patient was more apt to remain quiet with raised knees than one who was suffering from flatulency, where the limbs were generally tossed about continually. While the abdomen was apt to be tumid, it was to be remembered that general adiposity is most fully developed in this region; that women who have borne children are liable to have a large and prominent abdomen; that the abdomen of a healthy infant is so large as to measure one-third of its whole length; that a simple hysterical dilatation and inflation may simulate the tumefaction resulting from peritonitis; and that there may occur a local dilatation of the intestine from habitual constipation only. Moreover, in hysteria there was sometimes met with an œdematous swelling of both hypogastric regions, which would complicate the diagnosis still more seriously.

The surface of the abdomen exhibited nets of dilated veins more frequently in peritonitis and hepatic diseases than in any other conditions. Inspection might also reveal solitary convolutions rising above the level, and palpation and percussion might lead to the discovery of exudadations of various sizes and shapes, nodules, loops, and cakes, which may be either hard or soft, and which are either organized material, thickened omentum, or intestines glued together. Fluctuation would show the presence of fluid more readily than percussion, which might fail in this, that there might be adhesions between the parietal peritoneum and intestine in the flanks. The gas contained in the adherent bowel would yield the tympanitic percussion-note although the region might be filled with fluid. A change of position from one side to the other, or from the horizontal to the vertical posture, or *vice versa*, might contribute to dispel the doubt.

A chronic peritonitis was sometimes diagnosticated in the following manner: The patient is on his back, with the extremities now extended, and now flexed. Pressure is tried, soft or hard, sudden or gradual, superficial or deep, in the usual way. According to the seat of the pain experienced, inflammation or adhesion is made manifest. In many cases, however, the following manipula-

tion answers best: With the palm or finger deep pressure is first made. Perhaps there is no pain. Relieve the pressure suddenly, and a local, very distinct and circumscribed pain may be felt. Repetition of the experiment will always give the same result; the symptom being elicited by the sudden change in the relative position of the bowels. Not only pain, but the presence of hard, floating exudations can be distinguished by this and similar manœuvres.

Every change in the relative position of the bowels might give rise to pain. A sharp pain after a full meal might point to adhesions of the stomach; three or four hours after eating, to chronic colitis; a quickened inspiration or a cough, to perihepatitis; pain toward the end of micturition, to pericystitis. Pain, of varying degree and persistency, was a very frequent symptom in chronic peritonitis. Its variability depended often on the degree of irritation or congestion present, and acute attacks were frequent when there was a cause for exacerbations. The seat of the pain varied with the location and the extent of the lesion. Extensive peritonitis in the pelvis might not give rise to pain, except such as resulted from defecation, sexual intercourse, or micturition. The pain attending pericystitis was quite characteristic; appearing when the urine had been about one-half voided. In this, however, it resembled the spasmodic pain of vesical catarrh, with the exception that it was more localized above the pubes, and manifested itself more readily by pressure.

In some cases the pain of chronic peritonitis could not be diagnosticated from the enteralgia produced by other causes, such as abnormal contents, fermentation, and flatulency. Indeed, the anatomical causes of chronic peritonitis gave rise to these very conditions, for by it the intestinal movements were retarded, and from it there might result stenosis, and also twisting and adhesions; and through them any function was seriously interfered with.

The results of chronic peritonitis were very various. A simple attack of acute exudation might shape the whole future of the patient, and the histories of previous acute attacks were often not remembered. A few years ago an eminent physician and surgeon in New York died of peritonitis occurring during convalescence from typhoid fever. He had often complained of enteralgia and occasional attacks of diarrhœa during the twenty years that Dr. Jacobi had known him, but it was only just before his death that he recalled having suffered from peritonitis thirty years previously. At the autopsy there were found discolorations of the serous membrane in many places, and degeneration, dilatation, and atrophy of the colon to such an extent as to result in a number of perforations. From such a case it became evident that the most extensive adhesions and other changes might occur without any known history whatever.

The concluding portion of the paper was devoted to an exhaustive consideration of the important form of chronic peritonitis known as tabes mesenterica. The main symptoms common to every form and case of this were atrophy and tumidity of the abdomen, and the emaciation reached a degree scarcely met with in any other morbid condition. The variety of symptoms belonging to tabes pointed distinctly to different morbid processes. The gradual beginning, slow and feverless course, with but little disturbance of the bowels and other organs; the connection with a severe form of enteritis, continuation of diarrhœal discharges during the beginning and growth of tumidity, and moderate or high temperatures during the course of the morbid process; and the tumidity of the abdomen, with emaciation following chronic cough and repeated attacks of pulmonary catarrh, and terminating either in fatal exhaustion or acute peritonitis, appeared to prove that there are several distinct forms of tabes, depending on different causes, and attended with varying anatomical alterations. Thus it was evident that the former belief, that patients die of tabes through starvation, because the lacteals are no longer able to take up from the food a sufficient supply of nutrient matter, was no longer tenable.

Besides the simple secondary hyperplasia of the mesenteric glands resulting in obstruction, and the tubercular infiltration terminating in the same disturbance of function, there was a third condition which led to the symptoms recognized as belonging to tabes mesenterica, viz., chronic tubercular peritonitis. While the child was emaciated, sometimes to a fearful extent, the abdomen was tumid and elliptic, its surface shining, the superficial veins dilated, and the umbilicus expanded and flattened. There was sometimes ascitis, and sometimes hard and circumscribed tumors or intestinal convolutions might be distinctly felt or seen. There might be colic and diarrhœa, or these might be absent. The temperature might be normal. This condition might last for many months, even a year. It was capable of vast improvement, and might yield to practical recovery, though with a low standard of vitality. This capability of recovery, with which the experienced practitioner and pathologist had long been acquainted, had now and then surprised the surgeons who opened the abdomen on a mistaken diagnosis, found tubercular peritonitis, sewed it up again, and concluded when the patient recovered that this was because, and not in spite of, their uncalled-for operation. At the present time, however, we were justified in the belief that only those cases of chronic peritoneal tuberculosis will have a chance of recovery which are local, and not the result of general tubercular infection.

The diagnosis of tubercular peritonitis, or peritoneal tuberculosis, was apt to be quite difficult, and there were many chronic cases which could not be differentiated from non-infectious peritonitis and simple inflammatory processes. There were, however, cases of tumid abdomen, with atrophy of both an acute and chronic character, in which the nature of the affection could be made out with some degree of certainty. When the distention of the stomach appeared after an intestinal catarrh, when it continued after the diarrhœa had ceased in frequency, when the temperature remained high, and the symptoms (occasionally) exhibited a "typhoid" character, the existence of an acute attack of tubercular peritonitis was probable. This diagnosis was rendered the more probable by the presence of some other symptoms, although mistakes were possible even then. Among them were cough, pulmonary symptoms or dulness over the manubrium sterni, or below one or both clavicles (pointing to swelling of the tracheal or bronchial glands), a concomitant history of tuberculosis in the family, and a more intense degree of emaciation than the short duration of an intestinal catarrh would account for.

The prognosis of so-called tabes mesenterica was always uncertain except in the very worst cases. It was absolutely fatal when there was peritoneal and glandular tuberculosis complicated with or depending on generalized tuberculosis. In cases where the diagnosis of a non-infectious hyperplasia of the mesenteric glands could be made out it was decidedly more favorable. When the diagnosis of chronic peritoneal tuberculosis had been made the case was less promising; still, the possibility of recovery, or partial recovery, was not excluded.

### DISCUSSION.

DR. FRANCIS DELAFIELD said that the paper was a most timely one, and that there were few morbid conditions of greater clinical interest than chronic peritonitis. It was an affection constantly coming up for diagnosis, and as many mistakes were made regarding it as about any other with which he was acquainted. He had been accustomed to look at the disease with reference to the anatomical conditions present, and hence divided the cases into three classes: *first*, those in which there were simply adhesions of connective tissue; *second*, those in which there were present both adhesions and fluid, either serous or purulent; and *third*, those in which

there was diffuse thickening with fluid, but without adhesions.

In the first class of cases the condition was often not recognized until it was revealed by an autopsy. The symptoms often corresponded very nearly with those met with in what is known as "irritable colon," and it was very difficult to distinguish between the two. In many cases it was also difficult to distinguish it from tubercular peritonitis, when, in addition to connective-tissue adhesions, there was present a large waxy liver. Still another condition with which it was likely to be confounded was dilated pylorus, in which the stomach felt to the touch almost precisely like a mass of intestines matted together. Pain in different parts of the abdominal cavity gave the physician as much trouble as anything else in the way of making a diagnosis, and there was, in fact, very little to distinguish the pains due to different causes from each other.

In the second class of cases, where there was fluid in addition to connective-tissue adhesions, it was often difficult to distinguish the affection from tubercular peritonitis, and the diagnosis between it and carcinoma was also difficult. Again, we were likely to be puzzled by the shape which the peritonitis took. Thus, in certain instances, fluid was met with in different parts separated by partitions, and there were the physical signs of a solid tumor with fluid. What seemed like a tumor, however, was simply the intestines matted together.

In the third class, where there was diffuse thickening with fluid, but no adhesions, it was difficult to distinguish the condition from tubercular peritonitis, from multiple cancer, and from cirrhosis of the liver. Especially was it hard to diagnosticate it from the latter when the capsule of the liver was involved, since we were apt to have the gastric symptoms and the vomiting of blood, which were so often met with in that affection.

Dr. William H. Thomson also spoke of the extreme difficulty of diagnosis in chronic peritonitis, and stated that personally he had scarcely ever made the diagnosis of this disease without the mental reservation that the condition present might be something else. He recalled, however, two cases of cancerous peritonitis which had one feature in common, which he thought might be of service in other cases in making the differential diagnosis between this variety and tubercular peritonitis. The first was a lady, past forty-five years of age, who presented the symptoms of ascites. She complained of severe abdominal pain at times, but had no elevation of temperature. The special feature of the case to which he wished to call attention was the remarkably low percentage of urea present. The urine was also of low specific gravity. In this patient the autopsy showed the presence of carcinoma of the peritoneum. Much of the pain of which she had complained was referred to the left side, and this was explained by the fact that two of the false ribs were involved in the disease. There was also granular contraction of the kidneys, but this condition was not at all marked.

In the second case there was the same low percentage of urea in the urine; but here there was no trouble with the kidneys. As strengthening the diagnosis, there was a family history of cancer. In this case there was present one condition which occurred not infrequently in carcinoma of the peritoneum, viz., a distinct ridge extending across the abdomen, due to cancerous infiltration of the omentum. In cancer of the stomach Germain Sée had pointed out one diagnostic sign of some value—tenderness and enlargement of the post-clavicular glands—and Dr. Thomson said he had found this condition also present in cancerous peritonitis. The diagnosis of tubercular peritonitis might possibly be made out by the fact that in this affection the urea did not become diminished, as in cancer. Again, in cancerous peritonitis there were not the same fluctuations in temperature that were noted in the tuberculous form.

As to tubercular peritonitis he had seen one case, in a young man, in which there was distinct redness about the umbilicus, a sign of this affection to which Wilks had called attention. When ascites was present in chronic peritonitis it rendered it very difficult to distinguish between this condition and cirrhosis of the liver, and this was notably the case when the history pointed to perihepatitis. The previous history of the patient, as to habits, etc., however, would generally throw some light on the question whether cirrhosis of the liver was present or not. It was a difficult thing to account for many of the cases of chronic peritonitis, and some of them, he thought, appeared to justify the use of the term idiopathic as nearly as any affections we had to deal with.

Dr. L. Weber said that in an obstetrical case which he had attended many years ago he had had great difficulty in extracting the child, and after delivery he found that it was the subject of subacute peritonitis, and that it had been dead for a considerable time before birth. In this case the cause of the peritonitis was unquestionably syphilis. Another child, three months old, which he was called to attend, had almost from birth presented from time to time all the symptoms of peritonitis, and at the end of the third month it died of this disease. Here also the cause of the trouble was syphilis, and the child had, in addition, other well-marked signs of hereditary syphilis. Five years ago he attended a girl, seven years of age, whose family history was not good, the members of the family showing a tendency to tubercular meningitis. She had developed chronic peritonitis, and in the course of a year the abdomen had become considerably enlarged. There was ascites as well as thickening, and the patient was much wasted. By the prolonged use of the hypophosphites and cod-liver oil, and removal to the Catskill Mountains, the fluid and tenderness were got rid of, and the chronic diarrhœa from which she was suffering was cured, and the last time that Dr. Weber saw her she was entirely well.

In abdominal cancer, he went on to say, we had all seen chronic peritonitis, and it was also met with in connection with parasitic troubles, such as hydatids of the liver. He had never seen a case of chronic peritonitis, however, which was not of an infectious nature. The cases described in the earlier part of the paper he would look upon simply as cases where there had previously been acute peritonitis, with its consequent results. Of these, adhesions were the most frequent, and they often had the effect of impeding the functions of the abdominal viscera. He had no objection to calling such cases chronic peritonitis, although personally he did not consider them as true instances of this affection, like the cases to which he had referred. They were not cases of general chronic peritonitis, but exhibited simply the results of adhesions caused by the acute disease, and when in such cases a fatal result occurred, the patient really died of acute peritonitis due to perforation.

As to tabes mesenterica, he believed that this was always a tuberculous affection, and he had been much interested in the reports of the favorable results which certain surgeons had obtained in this disease by opening the abdomen and dusting the affected parts with iodoform. He had not personally had any experience with this method of treatment, but from what he had read of it he thought it would probably prove a valuable addition to our resources in suitable cases of the disease.

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Partial Obesity.—This pathological symptom has lately been dealt with by Dr. Bollinger, of Munich. In his memoir on the subject he describes the case of a man, forty-five years of age, who had served all through the Franco-German War (1870–71), and who for the last six years had suffered from *partielle Fettsucht* (partial obesity). The cheeks, the chin, the throat, the thorax, and the upper arms exhibited accretions of adipose tissue quite morbid in their excess. The patient could not account for it, as he had lived sparingly, had inherited no tendency too obesity, and had transmitted the same to none of his children, twelve in number. Dr. Bollinger finds the disease to be more common among men than women.—*Lancet.*

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE HARVEIAN ORATION AT THE COLLEGE OF PHYSICIANS—THE SOCIETIES—DR. HUGHLINGS JACKSON ON THE RELATIONS OF OPHTHALMOLOGY TO GENERAL MEDICINE—SIR ANDREW CLARK ON THE NON-TUBERCULAR AND NON-CARDIAC HÆMOPTYSIS OF ELDERLY PERSONS—THE MEDICAL AND CHIRURGICAL SOCIETY—ACUTE LEAD-POISONING—ALPINE CLIMATES FOR PHTHISIS—FORMATION OF A FUND TO ASSIST SUITABLE CASES—THE ANNUAL MEETING OF THE BRITISH MEDICAL ASSOCIATION IN 1890—THE LIBRARY OF THE COLLEGE OF SURGEONS.

LONDON, October 26, 1889.

THE Annual Harveian Oration at the College of Physicians was delivered last week by Dr. James Pollock. A series of successive annual addresses on the same subject must necessarily present strong points of resemblance. To strike out in any original vein of thought becomes, in fact, more difficult with every succeeding orator. On the present occasion the usual account of Harvey's work was given, together with the inevitable remark that, although Italian investigators did much, yet it was by Harvey that the actual mode of working of the heart was experimentally demonstrated. Harvey's task would have been impossible without vivisection, and there were few animals which he did not thus examine. He was the greatest exemplar of vivisection, if he were not its originator. But if great observers had not arisen after him, both medicine and surgery must have remained stationary. Dr. Pollock then skilfully pointed out how later discoveries had added to and completed the knowledge obtained by Harvey, without which, however, they would have been impossible. The researches and discoveries of Lavoisier, Priestley, Laennec, Stokes, Corrigan, Latham, and Williams were briefly referred to. The elucidation of the mechanism of the circulation enabled us to understand the action of the heart in disease.

Referring to modern advances in pathology, Dr. Pollock said it had been asked, what effect had all our improvements in medical science had on the general health of the country? He answered this question by showing from statistics that a marked decline had taken place in the death-rate in recent years, and that by far the largest proportions of the years added to human life in England were lived at those ages (between twenty and sixty) at which the value of life to the community was greatest. Since the passing of the Health Acts the mortality from phthisis had greatly lessened, and his own experience was that the duration of life in those suffering from phthisis had become distinctly prolonged. There was a slight increase of mortality (from all causes) at the more mature periods of life (among males of thirty-five and upward), but this was small and was becoming less; it was counteracted by the increasing number of the younger who now arrived at adult life. This slight increase in adult mortality might be brought about by the cares and worries of our higher civilization. Dr. Pollock remarked that his audience knew well what part of the organism it was which generally failed under pressure. The public said it was "brain," but they knew that it was "heart"—the motor power which Harvey studied, though perhaps he did not foresee to what pressure a modern civilization and struggle would subject it.

The medical societies have now commenced work for the winter session. The first meeting of the Ophthalmological Society was held last week, when a presidential address on "Ophthalmology and General Medicine" was delivered by Dr. Hughlings Jackson. Dr. Jackson remarked that no department of medicine had greater attractions for him than ophthalmology, and he still thought what he said in his address to the Medical Society in 1877, viz., that it was the luckiest thing in his medical life that he began the scientific study of his profession at an ophthalmic hospital. At an ophthalmic hospital one had the opportunity of being well disciplined in exact observation. When a physician saw how carefully and precisely ophthalmic surgeons investigated the simplest case of ocular paralysis, he was getting a lesson in exactness, and would be less likely in his own department of practice to deal in such generalities as that a patient's seizure "had all the characters of an ordinary epileptic fit," and more likely to take pains to describe the convulsion, the place of onset, the march, and the range of the spasm. Since six cranial nerves and the sympathetic nerve supplied the eye and its apparatus, it was evident that without a good knowledge of eye diseases the thorough investigation of many morbid affections of the nervous system could not be carried out. It was not many years since the ophthalmoscope was rarely used except by ophthalmic surgeons. Dr. John W. Ogle was the first physician in this country who used the instrument in the investigation of medical cases. It was very unlikely that there was to-day a single patient in the National Hospital for the Paralyzed and Epileptic whose eyes had not been examined by this instrument. Dr. Jackson then gave numerous illustrations of the relation of ophthalmology to neurology. He remarked that of course it had much wider relations, and concluded by quoting the following words from a paper by Dr. James Anderson: "It seems to me the best and most hopeful feature of ophthalmology that it has relations, closer or more remote, with every branch of medicine and surgery—indeed, with almost every branch of science."

The Medical Society of London and the Medical and Chirurgical Society have held their first meetings during the present week. At the former, after the delivery of an inaugural address by the President (Dr. Theodore Williams) Sir Andrew Clark read a paper on the "Non-tubercular and Non-cardiac Hæmoptysis of Elderly Persons." He related in detail two fatal cases of hæmoptysis occurring in elderly arthritic patients. In both cases the absence of tubercular, malignant, or cardiac disease was proved by post-mortem examination—which, however, showed that the hemorrhages were in the immediate neighborhood of patches of emphysema—and that the minute vessels, the terminal arteries for the most part, were in those localities always diseased. Sir Andrew said that plainly enough the source of the hemorrhage lay in the diseased blood-vessels, and probably the disease was of an arthritic nature. Since 1875 he had seen in persons over fifty years of age some twenty cases of this form of hæmoptysis—a variety of which he had been unable to find any clear account in the annals of medical literature and which he ventured to call "arthritic hæmoptysis." The cases he had related had led him to discontinue the ordinary method of treatment of hæmoptysis by astringents, and to try another method which seemed more rational and which he had hitherto found successful, viz., rest and warmth, a light and rather dry diet, counter-irritation to the chest, a succession of small doses of calomel at bedtime, supplemented by saline aperients in the morning, and the taking between meals, twice or thrice in the day, of a mixture containing iodide of potassium, bicarbonate of potassium, and ammonia. Sir Andrew Clark then related two illustrative cases thus successfully treated. In one, the bleeding recurred but was quickly cured by calomel and salines.

At the Medical and Chirurgical Society an inaugural address was delivered by the President, Sir Edward Sieveking, in which he traced the history of the Society from its foundation in 1805 to the present time. Dr. Thomas Oliver, of Newcastle, then read a paper on "Acute Lead-poisoning," which was followed by an animated discussion.

The value of Alpine climates in certain cases of phthisis has long been before the profession. Unfortunately,

many of the patients most likely to benefit by the climates in question are precluded from trying them owing to want of means. It is, therefore, gratifying to find that a fund has been formed for the pecuniary assistance of such cases. Drs. Symes Thompson, Theodore Williams, and William Ewart, have undertaken to examine cases and decide as to their suitability on medical grounds.

Birmingham has been selected as the meeting-place of the British Medical Association in 1890. Birmingham may justly be described as a stronghold of the Association, or, rather, of those who support the present policy of its Council. The latter could not have shown their weakness more conspicuously in the present crisis than by determining to hold the next annual meeting in that town.

The library of the College of Surgeons is to be kept open till 9 P.M. on five evenings a week until the end of the year. Should the experiment be appreciated by a large number of readers, the extension of hours will no doubt be made permanent.

## BOTH RIGHT AND BOTH WRONG.

To the Editor of The Medical Record.

SIR: Paradoxical as the above caption may appear, it will, nevertheless, be found correct when applied to the facts and arguments adduced pro and con in reference to artificial anæsthesia during sleep, as published from time to time in THE MEDICAL RECORD and other journals of late years. Many cases have been published, where the effort to produce chloroform anæsthesia during sleep was most successful; while on the other hand, perhaps a still larger number resulted in failure.

Any amount of negative evidence, however, cannot break the force of one well-attested, positive case, much less that of many. So, it remains to be explained why some succeed, and why others fail; which, no doubt, is easy enough when all the factors are considered, and to each its intrinsic importance is allowed. The proper understanding of this difference in the results of the investigation of medical men of equal attainments, is not only of much interest to therapeutic medicine, but it is of the greatest importance viewed from a medico-legal standpoint, since cases will continually arise wherein medical evidence is liable to be very conflicting, much to the damage of justice, and quite humiliating to professional pride. It is a well-recognized fact that some persons are of a phlegmatic temperament, and consequently are not impressible in a high degree, through the special senses, to the various external agencies surrounding them. Their feeble respondence to external agents during all their wakeful moments, proves this to be true, and it holds equally good when they are overtaken by sleep. Hence, a person so constitutionally disposed would be more likely to come under anæsthesia by inhaling medical agents during sleep, than others of a different or opposite predisposition. The experiment tried on such persons, and under the most favorable circumstances, would not be likely to be disappointing.

On the contrary, the very opposite would naturally be expected from a person in whom the nervous system is wrought up to a high degree of tension. In wakeful and sleeping moments, alike, a respondence to impressions from every source is so acute as to be next akin to the morbid element. The repose of such persons is more of a slumber than deep, sound sleep. A state absolutely of hyperæsthesia, both as to touch and sound, exists in persons thus constituted. Some of them are so sensitive to external agents as to be awakened by another person, especially if a stranger, on approaching close to the bedside, although ever so stealthily. Now, in a case like this, under the ordinary state of being, doctors alive to such influences would hardly expect, beforehand, to succeed in producing anæsthesia during sleep; if so, the subject would surely wake them to a realizing sense of their mistake. These two opposite states of the constitutional make-up, found existing in every community, offer a good explanation of many successes and failures in an effort at anæsthesia, thus harmonizing to a certain extent experimentation in this direction.

Again, while the majority of persons are free, perhaps, from such pronounced tendencies, they are inclined more or less to the one or the other, besides being influenced by many other considerations, either favorable or unfavorable in such an experiment.

One who had undergone great fatigue during the day would be less likely to wake on the administration of chloroform, especially if the supper had been light, and it was in the midst of the first sound nap; the opposite state of things existing, would of course favor wakefulness. Owing to habit formed, many persons are easily awakened, the slightest noise being quite sufficient; and, as a matter of fact, it would be next to impossible to bring them under anæsthetic influence. Most people, especially if fatigued, sleep soundly about midnight, and at that time would be less likely to wake on receiving an anæsthetic.

Whatever tends to make one restless—such as overheating, mental anxiety, pain, or hyperæsthesia from rheumatism, and insect annoyance—would naturally render a subject unfit for experiment, because sleep is not sound enough. Persons who, but just before receiving the anæsthetic, have, from any cause, been deprived of a large amount of sleep, would be more difficult to wake, because of that fact; and therefore, much easier to anæsthetize while thus thoroughly lost to all sense of their surroundings. Sleeping with one eye open would not apply in their case. The experiment would be less likely to succeed in persons laboring under acute or chronic ailments, for usually all such have their slumbers to rest on them lightly. With children, as might be supposed, the chances of success appear to be much better. This is accounted for from the fact that children are more susceptible to medical impressions than adults; and furthermore, they sleep sounder and with more perfect abandon when there is no disturbing cause. More sleep is required by them than older persons, unless the very old; so that when they round up the day's exercise and excitement, tired nature is quite ready to fall into the welcome embrace of soothing Morpheus.

As an illustration of how it acts with children, the case reported in THE MEDICAL RECORD of September 7th, by Dr. Theodore Potter, is fairly representative. This child had been on the go all day, when he received the injury; and nature was then still further exhausted and undone, by ceaseless efforts to find relief from pain, for two hours, at which time, 9 P.M., the limb was placed in comfortable position; after this, all things favoring, the patient soon found relief from suffering and exhaustion in deep sleep, from which chloroform inhalation to anæsthesia, even, did not arouse him. Doubtless, had this occurred in the forenoon, anæsthesia would then have been far more difficult, if not impossible, to effect, for the reason that sleep would not have been needed, and it would be out of the regular order of physiological rest. In most cases, an injury of like character, no doubt, would interfere with success; but in this instance, the injury occurring when the day was fairly on the wane, and the limb having been made comfortable, it seems not to have militated against a favorable issue. Because of greater pleasantness, and more concentration, it can hardly be questioned that chloroform will be found to succeed better in such attempts than other articles possessed of like properties. Doubts seem to exist in the minds of many, both lay and professional, as to whether it is possible for burglars and others criminally inclined, to effect successfully artificial anæsthesia on their intended victims during sleep. When it is taken into consideration that they ply their vocation usually about midnight, just the time the subject upon whom the experiment is to be tried, as well as all nature, is wrapt in the deepest slumber, it is not to be wondered at if they should succeed. Doctors try the experiment, as a rule, on patients afflicted with disease;

who are restless, generally, and would be liable to wake; but burglars have the very best subjects upon whom to operate, and this of itself would seem to warrant success, other things being favorable. In addition, while they may not be skilled in the administration of an anæsthetic, they have cultivated sleight-of-hand performances, and cat-like stealthiness, until advantages would perhaps be in their favor. This is a point upon which there ought to be a more unanimous conviction and expression by medical men, in order that justice may be done, and proper protection given, to the helpless while enjoying "tired nature's sweet restorer—balmy sleep." The medico-legal phase of this question, is, indeed, a most important one, and the interest therein centred will doubtless become still greater as time elapses, for all kinds of wickedness and crime seem to be fearfully on the increase. In the administration of an anæsthetic during sleep, very much depends on the manner of giving it in order that the proper effect shall be produced. That it should be given very gradually, and much diluted with air, stands to reason; and herein lies an advantage in burglarious cases, since, from their known habits of procedure, burglars would be most certain to give it in that way.

Admitting foregoing elucidations, surely a better correspondence of opinion on this question ought to be reached by the medical profession.

As to whether artificial anæsthesia applied to different people can or cannot be effected during sleep, depends on so many conditions, and such a variety of circumstances, no one can form a correct conclusion until the question has been viewed in all its bearings; and when that shall have been done by individual inquiry, doubtless professional opinion will be tolerably unanimous.

B. F. HART, M.D.

SWEET SPRINGS, MO.

## THE PREVENTION OF SEA-SICKNESS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In THE MEDICAL RECORD of September 28th appears an item, in which it is stated that "Dr. Ivan A. Mitropolsky, of Moscow, warmly recommends as a simple method for preventing or aborting all symptoms of sea-sickness," the closing of the eyes and making deep and slow inspirations and expirations. The item also states that a writer in the *London Medical Recorder* intimates that this means is not original with Dr. Mitropolsky, and cites an article in the *British Medical Journal*, March 24, 1888, by Dr. Leiser, in which the writer says that sea sickness is caused by irregular and imperfect respiration, and that a system of regular free breathing prevents or rapidly relieves it. He also gives the result of various experiments, which he says were entirely successful.

In this connection, I trust that I may be pardoned for calling attention to an article entitled "A Study of Sea-sickness," contributed by myself to the *Century Magazine*, July, 1883.

It was the purpose of that article to show that "sea-sickness is the result of reflex irritations arising from little surprises to the muscles, and shocks to the nerves engaged in certain important functions." Among these important functions was included that of respiration, which was discussed at some length. I quote a few sentences:

"Another source of nervous perplexity, then, of no small consequence, will be found in the inclination to breathe synchronously with the swing of the vessel. . . . If the ship's motions were only in one direction, and if they were uniform in time, they would produce, in one sitting on the deck or reclining in a berth, the same agreeable effect as swinging on a hammock on shore; but, unfortunately, there are too many elements of disturbance in the rhythm of the ship's movements to react in such an agreeable manner. . . . When the ship rolls regularly, once in so many seconds, the people breathe regularly, but when the ship's motions lose uniformity, the irregularity of performing the function (of respiration) would be a sufficient cause for general nervous disturbance."

In speaking of the means of preventing or mitigating the evil, the article continues:

"Strict attention should be directed to the state of the respiration. Many a threatened sickness may be averted by drawing a few deep, full inspirations at regular and rapid intervals. One who is overtaken by sea-sickness while lying quietly in the berth in the darkness of the night, may be quite sure that he or she is breathing in the same unsteady manner in which the ship is moved upon the water. If the sufferer, at the first premonition of sickness, would rouse sufficiently to attend properly and earnestly to the breathing process, it is probable that the nausea would pass away as suddenly as it came. Under all circumstances, then, the breathing should be strictly dissociated from the motions of the ship."

It has not been my purpose to quote at any length from the article referred to, which treats the subject upon broader principles than either of the articles quoted by THE MEDICAL RECORD, nor to refer to any other of the disturbances arising in the performance of several functions which were recognized as causative in this malady. My purpose has been only to call attention to the similarity of the views of these writers, so far as this function is concerned, to those published in a widely circulated periodical more than six years since.

GEORGE T. STEVENS.

33 WEST THIRTY-THIRD STREET, September 30, 1889.

## A MEDICAL EXAMINING BOARD FOR NEW YORK STATE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: To those who are close observers of the drift of opinion among medical men, there can be no doubt that the question of a Medical Examining Board for the State of New York—no matter how strenuously it may be opposed by an influential minority—must soon force itself upon us for settlement.

That the Empire State and the metropolis of this continent, from which all that is progressive and wise should emanate, should remain passive, with folded hands, seemingly oblivious to the progress which other and younger States are making, is a confession as shameful as true.

Illinois, Virginia, Alabama, North Carolina, and Minnesota have done, and are to-day doing, a hundred-fold more to elevate the standard of medical education, close the door to quackery, and increase the respect on the part of the laity for our profession, than New York State with all its boasted wealth and culture, and its great didactic and clinical resources.

It was my privilege to attend recently, at Roanoke, Va., the annual meeting of the Medical Association of that State. The Board of Medical Examiners were then in session. Twenty-six applicants came before the Board for license to practise. Twenty-three held diplomas from well-known medical schools, and three were non-graduates who had attended one or more courses of lectures. Only eight of this number received the Board's permit. These gentlemen are shutting the door on what heretofore has been called medical education. Their action was unanimously approved by the State Association. This Association, by their earnest and united action, have about closed the door on quackery. If every other State in the Union would secure such a law and organize such a courageous and honorable Board of Examiners, can one doubt that within five years' time the annual number of graduates would be very greatly diminished? Those who elect the calling of medicine would be compelled to undergo thorough preliminary preparation; the standard would be raised equal to that of the best schools of Great Britain and the Continent.

To bring about this "consummation devoutly to be wished," I respectfully suggest the following:

1. Let the New York Academy of Medicine issue a call for a convention of representatives of all unsectarian County Medical Societies of New York State.

2. At such convention the representation and voting power of each society to be proportionate to its actual paid up membership, as attested in writing by the President and Secretary of each society—say, one vote to every twenty-five members or less. The votes to be by person or written proxy, and no proxy to be cast except by a representative of the society from which it is sent.

3. This convention to draft a set of rules for the better regulation of the practice of medicine in the State of New York, and elect a State Board of Medical Examiners.

Such a movement, endorsed and supported by a fair majority of the profession in this State, would become a law by act of the legislative body and the Governor. It could not be successfully resisted or thwarted in its object.

This Board to be composed of members of the medical profession qualified by special experience in the departments assigned to them as examiners.

The proposition to exclude from the Board of Examiners, professors in colleges authorized to confer a degree in medicine, is not fair; nor would it be just to permit one-half of this Board to be composed of college professors, as recently advanced in an article in the *North American Review*. There can be found enough perfectly competent material outside of the colleges to organize a dozen examining boards. It would be a fair division, in my opinion, if one-fourth of the entire Board selected by the profession in the State were college teachers.

The Board of Examiners should consist of two members for each of the following departments: Anatomy, physiology, chemistry, materia medica, therapeutics, medicine, surgery, obstetrics and gynecology, and pathology, sixteen in all. The examinations should be written, oral, and practical. A candidate should be satisfactory in seventy-five per centum of the grading in each branch. Failing to secure this minimum in one-half of all subjects, he should be rejected. Failing in less, that he be allowed within six weeks a second examination in the branches in which he was found deficient. Failing a second time, he should be given one year for a final examination. A fee equal to the ordinary "graduation fee" of the colleges to be charged each applicant. The amount received to go to defray the expenses of the Board.

The question of qualification to be the chief consideration in determining the issue of a permit. All applicants to be given an equal showing, without question as to the college from which they hail or the school in which they propose to practise.

In voting upon the subjects of surgery, medicine, and obstetrics and gynecology, the affirmative vote of both examiners in each branch should be required. In the five other departments one affirmative vote in each may secure a permit, giving eleven out of sixteen votes as the lowest possible vote. The above to go into effect when the "Rules for the Better Regulation of the Practice of Medicine in the State of New York" should become a law.

There are many minor points of interest which might be added, but I do not wish to impose further upon your valuable space. It does seem to me that the Academy of Medicine, were its vast influence concentrated in the movement, could not only bring about the organization of the State Board, but go farther and secure the endowment and support of a medical college on a grand scale, in which the requirements for a license to practise should be three full years of didactic and one year of strictly clinical work.

JOHN A. WYETH, M.D.

## DETERMINATION OF SEX.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Few things are to me more interesting than a muddle, however "deplorable" it may appear to a man in Siam. In your issue of September 21st, Dr. Thompson writes from Siam like a man deeply impressed with the importance of his theme, and thereby enlists my deep sympathy, and draws me away for the time from the company of those serene but simpler souls who are content to view the subject as one of the hidden mysteries of nature.

Dr. Thompson is willing to part with the old superstition that the right testicle begets boys and the left one girls, and leaves the impression that with a little persuasion he would dump into the same waste the theories that boys are begotten before, and girls after midnight; that it depends upon the relative ages of the parents; that it depends upon their relative vigor; upon whether begotten before or after menstruation; upon the preponderance of amatory desire. With regard to the last, however, he would evidently hear argument, for he asks, with touching pathos, "Why the silence of medical men in regard to it?" Why, indeed?

I will speak of things about which I have no doubt, remarking, by the way, that doctors pick up a good many things which do not concern them personally. A. had amativeness well developed. B. had no sexual feeling whatever. Their ages differed by one year. After long resistance B., being left alone by the death of her parents, yielded to A.'s suit and married him. She accepted with Christian resignation all the burdens of wifehood, but the sexual act never produced in her any other feeling than aversion and disgust. Yet she bore children somewhat rapidly, in this order: Girl—boy—girl—boy—girl. After the last birth, incensed at her husband for whipping one of the children, she withdrew from her husband's bed till the day of her death, but discharged all the other duties of wife and mother with dignity and fidelity.

It is not germain, but may be of interest to speak of the children of this union. The eldest daughter, after much importunity and repeated refusals, finally consented to marry an eligible gentleman. She made a gentle and agreeable companion, yielding all that her husband demanded, experiencing neither pleasure nor disgust from his embraces. But she would sometimes laugh immoderately at the most critical periods of his career, recalling to his memory our old friend Shandy and his clock at most inopportune moments. His intense interest in passing events was wholly inexplicable to her. She early conceived, but, unfortunately for this tale, died of uræmic convulsions a month before term, and the sex of the fœtus was not made manifest. The youngest daughter was an enigma. Without apparent effort on her part to please, men "fell at her feet," almost as a matter of course. But she would have none of them, and, after rejecting suitor after suitor, was gathered unto the angels, where she belonged. The boys, like their father, possessed normal amativeness.

C. was thrice married, to girls three, five, and fifteen years, respectively, younger than himself. Two of the ladies may be ranked as normal, with regard to sexual feeling, the other at zero. The result was male children only in each case. But "it is well known," continues Dr. Thompson, "that an intimate relationship exists between the physical and psychical condition of the parents, and conditions or characteristics of the offspring. Is it too much for us to believe that on the line of this relationship may be found the determining factors of sex?"

I fear it is. An old German farmer and his wife had no psychical conditions that were visible on the surface. They needed boys for the farm and ought to have had them; but the result of their love was nine healthy girls. A neighbor said to the old lady in my presence: "Why didn't you turn the bed around? I have heard that that would change the luck." Her innocent reply was: "I did durned it, and durned it, and durned it, until, bless God, the gude man could git neider gal nor poy!" But there are compensations in nature. A neighboring couple had a similar family, all boys, and no amount of praying and bed-changing would change the luck.

But I am not accustomed to discuss a subject without settling it. On one occasion in my student days the Pro-

fessor of Obstetrics devoted a whole hour to the question, "Why does labor occur?" He reviewed the speculations of authorities from the time of Hippocrates down, and left the question precisely where he found it. After the lecture, in a spirit of flattery no doubt (I had paid for all my tickets in advance), he asked if I had formed an opinion on tne question. "Why, Professor," said I, "there is no room for any question about it. God made woman and subjected her to the operation of certain natural laws. She conceives, gestation proceeds until the time of Nature is accomplished; then labor begins because the woman can't help it!"

Why not apply the same rule to the question of sex? Where is the objection to the hypothesis that sex is inherent either in the ovum or in the spermatozoon which finally impregnates it? We may, then, reasonably infer that in the ova of one female, or the sperm of one male, one sex predominates and the other in another; and that the result of copulation in a given case is purely a matter of chance, if we exclude Omniscient decree in matters of such detail. This, it seems to me, would be a satisfactory solution of the "deplorable muddle."

S. S. TURNER, M.D.,
*Acting Assistant Surgeon U.S.A.*

## PROTECTION FOR RAILWAY TRAVELLERS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: "Missouri," in your issue of September 28th, does well in calling attention to the exposed condition of the "closet" department of sleeping, parlor, and other styles of railroad cars. But aside from the danger specified—direct exposure to the inrushing cold air—there are other dangers; those caused by the horribly cold surroundings in the box, where one must be penned for the time being; the lump of ice in the urinal opposite, for one to stare at while perched on the seat does not add materially to the comforts, unless as a "peristaltic persuader" of the unfortunate occupant of the pen. All this needs to be, and must be remedied; and "Missouri" has acted wisely in taking advantage of the columns of your valuable and widely circulated journal, as it does not "advertise" "the few new cars for special exhibition."

Since the subject of railroad car closets has been broached, it will not be amiss to call attention to other dangers, aside from those mentioned. These "conveniences" (?)—inconveniences and death-traps more properly—play, I believe, a considerable part in the cause of local outbreaks throughout the country of typhoid fever. There are in this land of advancement but few water-supplies providing drinking water for our large towns and cities that are not in constant danger of being polluted by typhoid or other forms of specific germs—cholera if it were prevalent. These germs are dumped along the roadbeds of the many railroads that are constantly winding about the streams of our water-supplies, or, it may be, crossing them at some or many points along their course. This is especially liable to occur where roads are largely engaged in the transportation of emigrants. It is to be hoped that these abuses, of railroad travel may be done away with. Perhaps in no surer way could they be remedied than by calling to them the attention of the newly formed Association of Railway Surgeons, from which so much good is bound to come in the hope that many other dangers to which human life is now subjected may be removed.

For my own part, I feel that the house-trap and closet of most recent design should be placed in all railway cars; these to be connected with pipes that would conduct the flushing water, with the excrementitious materials, along to the fire of the engine, where they can be run through a convoluted system of pipes exposed to the intense heat of the fires before being discharged to the earth, when they will have been rendered innocuous.

RICHARD H. GIBBONS, M.D.

435 WYOMING AVENUE, SCRANTON, PA.,
October 1, 1889.

## EATING BEFORE SLEEPING.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In a recent issue of THE RECORD I notice an article on "The Food Treatment of Insomnia," by Dr. Eggleston. There is much truth in what he says.

Very often when at the Asylum I have seen patients who had long refused food and been sleepless before admission (notwithstanding that large doses of powerful hypnotics had been given) going quickly to sleep after having been fed with the stomach-pump.

Dr. Eggleston seems to think that there is some excuse for the old saw of "not eating before sleeping," for he says, "it may be true that digestion goes on more slowly during sleep."

Now there is really no excuse for the old prejudice, and we are only able to sleep well without first eating (especially if hungry) by long training in rebellion against nature. For is it not a fact that the stomach requires more blood during the period of digestion, and what more natural, then, than that the blood be drawn from the brain, as it is the most vascular organ of the body, and during sleep less blood is required in the brain? Hence digestion should aid sleep, and sleep aid digestion.

Common observation of the lower animals all goes to show the same that the doctor points out with babies; that to eat first and sleep afterward, is nature's rule and their practice.

As the exception proves the rule in many cases, so here. If one eats uneasily digested food before retiring he will very likely be disturbed in his sleep, or perhaps may not sleep. But the same things eaten prior to a season of waking hours would also have given distress.

The more busy and occupied the man, the less attention he would likely give to the distress of indigestion. So, on the other hand, at night, when he has nothing else to do but think of his pains, they naturally make more lasting impressions on him; and, of course, sleep lost is another penalty, not of having eaten before retiring, but of having eaten substances that would cause distress under any circumstances.

W. WASHBURN, M.D.

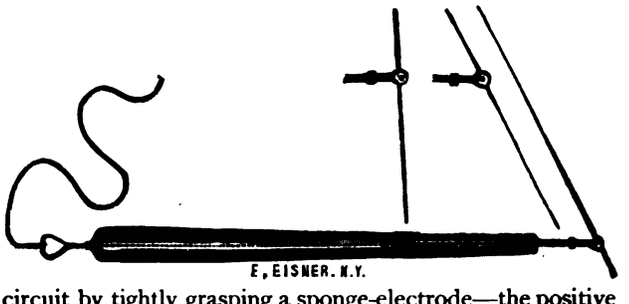
42 IRVING PLACE.

# New Instruments.

## A NEW NEEDLE-HOLDER FOR REMOVING HAIRS BY ELECTROLYSIS.

BY FREDERICK J. LEVISEUR, M.D.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL AND DISPENSARY.

THE removal of superfluous hair is accomplished, as is well known, by introducing a very fine needle, connected with the negative pole of a galvanic battery, down to the bottom of the hair-follicle. The patient completes the




circuit by tightly grasping a sponge-electrode—the positive pole. After a short time, say ten to thirty seconds, the circuit is interrupted, the needle withdrawn, and the hair removed by forceps, if found sufficiently loose.

The mechanical difficulty of this simple process consists in probing the little *cul-de-sac* down to its deepest part without injuring much the surrounding tissue. A little instrument which I have devised materially facilitates, I think, this operation. It is a needle-holder modified after the following manner: The small metal point

is ball-shaped and perforated from top to bottom, as well as from behind above, to in front below. The needle can be inserted and fastened by screw arrangement in three different positions, so as to form, with the handle, a right, or an acute, or an obtuse angle. The operator, who is standing or sitting behind his patient, holds the instrument like a writing-pen. His forearm is at rest, and a slight movement of the wrist suffices to make the needle enter deeply into the hair-follicle with an easy and elastic motion. There is no place in and around the patient's face that could not easily be reached with the instrument.

The accompanying wood-cut, showing very well the principle of my new needle-holder, was kindly furnished to me by Messrs. F. Eissner & Co., of No. 18 Bible House, Third Avenue, New York, who manufacture and sell the instrument.

687 Lexington Avenue.

## A NEW GASTRIC ELECTRODE.

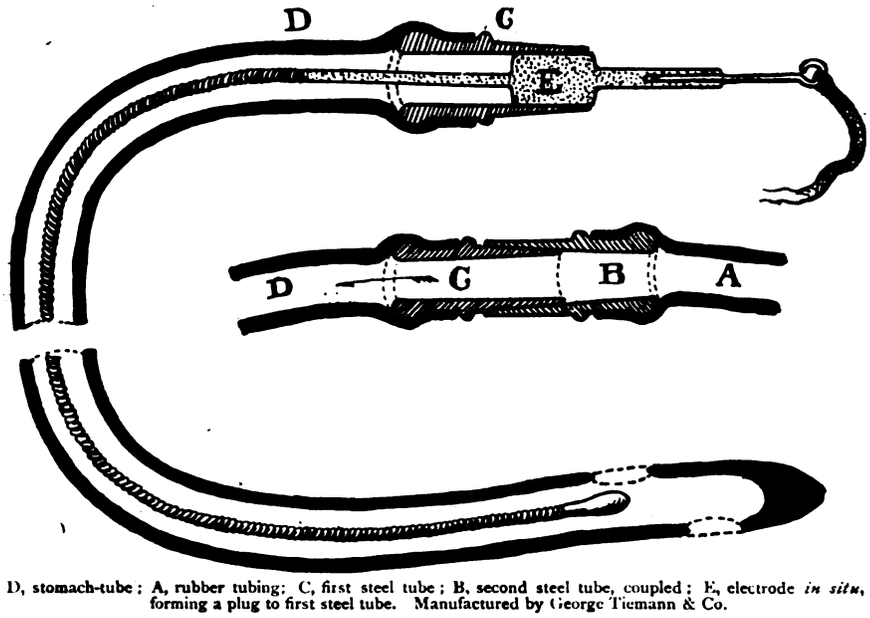
By CHARLES G. STOCKTON, M.D.,

Professor of the Theory and Practice of Medicine, and Clinical Medicine, Medical Department of the University of Buffalo, N. Y.

For the past two years I have been studying the results of the electrical currents applied by means of a gastric electrode for the relief of certain disorders of the stomach.

Numerous experiments taught me the importance of preventing the metal electrode from coming in direct contact with the gastric mucous membrane. To overcome this objection efforts were made to utilize the column of water in an ordinary stomach-tube as the conductor of the current; and it was found that, by using a saline solution in the tube, a weak current could be carried, but the method was troublesome and the results unsatisfactory.

An instrument was then made, by carrying through a stomach-tube an uninsulated wire, which at the distal end of the tube terminated in a button so arranged that it came near the fenestrum of the tube, and yet so that the mucous membrane could not reach the metal point. This contrivance overcame the internal resistance and proved effectual, but it was inconvenient to the patient, inasmuch as it was necessary to introduce an ordinary tube for washing out the stomach before the tube containing the electrode could be employed.




D, stomach-tube; A, rubber tubing; C, first steel tube; B, second steel tube, coupled; E, electrode *in situ*, forming a plug to first steel tube. Manufactured by George Tiemann & Co.

Finally, I contrived an apparatus which for some months has been used with satisfaction both by myself and others, and which seems to meet every requirement. It is admirably constructed by Messrs. George Tiemann & Co. It consists of an elastic stomach-tube twenty-four inches long, which at the proximal extremity is slipped over one end of a short steel tube. Over the other end of this tube fits a second short steel tube, making a tight joint; and to this is attached sufficient rubber tubing to make a convenient siphon. We have now an ordinary lavage tube, with a metal coupling. After emptying the stomach, uncoupling the joint, and thus removing the rubber tubing, the electrode, which consists of a spiral steel wire with an enlargement at the end, is introduced through the stomach-tube without removing it. The electrode makes a tight plug for the first steel tube, thus preventing the regurgitation of fluid from the stomach, and at the same time holding the instrument together. The whole makes an uncomplicated affair, very easily managed, and conveys a current strong enough for any purpose. It is best to have a little weak solution of sodium bicarbonate in the stomach before introducing the electrode.

The illustration is from a pen sketch by Dr. H. G. Matzinger of the Buffalo State Asylum for the Insane.

There remains much to be said about the practical results of the electrical treatment of gastric disorders. This is hardly the place to detail clinical experience, but I may be allowed to express the opinion that this method enables one to effect, beneficially, disturbances of motion, sensation, and secretion, which, in some instances, baffle other plans of treatment.

278 Franklin Street.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from October 27 to November 2, 1889.*

Heger, Anthony, Lieutenant Colonel and Surgeon. By direction of the Secretary of War, so much of par. 2, S. O. 24, October 16, 1889, from this office, as relates to him, is amended to read as follows: Lieutenant-Colonel Anthony Heger, Surgeon, is relieved from further duty in the Division of the Atlantic, and will at once report to the Major-General commanding the army for duty in this city. Par. 3, S. O. 252, Headquarters of the Army, A. G. O., October 29, 1889.

Forwood, William H., Major and Surgeon. By direction of the President, is detailed as a member of the Army Retiring Board at St. Paul, Minn., convened by War Department Order dated January 12, 1889, published in S. O. No. 10, January 12th, from Headquarters of the Army, vice Captain Edgar A. Mearns, Assistant Surgeon, who is hereby relieved. Par. 12, S. O. 254, A. G. O., October 31, 1889.

O'Reilly, Robert M., Major and Surgeon. By direction of the Secretary of War, par. 3, S. O. 24, October 16, 1889, from this office, is so amended as to grant him leave of absence for six months, with permission to leave the United States, to take effect November 1, 1889. Par. 6, S. O. 252, A. G. O., Washington, D. C., October 29, 1889.

Gibson, Joseph R., Major and Surgeon. Granted leave of absence for seven days, to take effect from date of being relieved from duty at Fort Sheridan, Ill. Par. 9, S. O. 249, A. G. O., October 25, 1889.

Taylor, Morse K., Major and Surgeon, retired. Died October 20, 1889, at San Antonio, Tex.

Willcox, Charles, First Lieutenant and Assistant Surgeon. Appointment to rank from October 29, 1889.

MAUS, LOUIS M., Captain and Assistant Surgeon. Granted leave of absence for two months, on Surgeon's certificate of disability. Par. 11, S. O. 249, A. G. O., October 25, 1889.

GORGAS, WILLIAM C., Captain and Assistant Surgeon. By direction of the Secretary of War, is relieved from temporary field duty in the Department of the Missouri, and will join his proper station (Fort Barrancas, Fla.). Par. 2, S. O. 251, A. G. O., October 28, 1889.

MAUS, LOUIS M., Captain and Assistant Surgeon. By direction of the Secretary of War, so much of par. 10, S. O. 242, October 17, 1889, A. G. O., as directs him to report in person for duty at Fort Stanton, N. M., to relieve Captain Marcus E. Taylor, Assistant Surgeon, is revoked, and Captain Taylor will proceed to Boise Barracks, Idaho Terr., as directed in said order, as soon as medical attendance shall be provided for Fort Stanton. Par. 10, S. O. 249, A. G. O., October 25, 1889.

CABELL, JULIAN M., First Lieutenant and Assistant Surgeon. Granted leave of absence for two months, to take effect about November 10, 1889. Par. 7, S. O. 249, A. G. O., October 25, 1889.

MCVAY, HARLAN E., First Lieutenant and Assistant Surgeon. Appointment to rank from October 29, 1889.

FRICK, E. B., First Lieutenant and Assistant Surgeon. Appointment to rank from October 29, 1889.

BY direction of the President, the Army Retiring Board convoked at Vancouver Barracks, Washn. Terr., by War Department order dated December 15, 1888, published in S. O. 292, December 15, 1888, from Headquarters of the Army, is dissolved. Par. 1, S. O. 250, A. G. O., Washington, October 26, 1889.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 2, 1889.*

NASH, F. S., Passed Assistant Surgeon. Detached from duty in Bureau of Medicine and Surgery and ordered to the Petrel, November 14, 1889.

BOGERT, E. S., Medical Inspector. Ordered to examination, preliminary to promotion to Medical Director.

NORTON, O. D., Assistant Surgeon. Ordered to examination, preliminary to promotion to Passed Assistant Surgeon.

KITE, J. W., Assistant Surgeon. Ordered to examination, preliminary to promotion to Passed Assistant Surgeon.

STONE, E. P., Assistant Surgeon. Ordered to examination, preliminary to promotion to Passed Assistant Surgeon.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 2, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 43 | 16 |
| Scarlet fever | 38 | 4 |
| Cerebro-spinal meningitis | 4 | 2 |
| Measles | 21 | 0 |
| Diphtheria | 80 | 18 |
| Small-pox | 1 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE LESSONS OF WORTHY LIVES.—Several well-known figures have recently been taken from the London medical profession by death. Among them may be specially mentioned Dr. Habershon, Dr. King Chambers, Mr. Walter Coulson, and Dr. Lawrence Cumberbatch. Dr. Habershon was for twenty-six years a member of the medical staff of Guy's Hospital. In 1880, being then senior physician, he resigned his appointment, as a protest against the way in which the nursing arrangements at the hospital were carried out by the treasurer in opposition to the expressed views of the staff. By thus resigning Dr. Habershon sustained a considerable pecuniary loss, as, although the hospital appointment was not a paid office, the fees from students for clinical teaching amounted to several hundred pounds a year. Mr. Cooper Forster, the then senior surgeon, resigned at the same time. In consequence of their action, neither he nor Dr. Habershon were elected members of the consulting staff. Dr. Habershon's published writings were chiefly on diseases of the stomach and abdomen, and it is remarkable that he himself died from repeated attacks of hæmatemesis, which was, on post-mortem examination, found to be due to simple ulcer of the stomach. Any mention of him would be incomplete without stating that from early life he took an active interest in religious and philanthropic work of various kinds. Dr. King Chambers was at the time of his death the senior consulting physician to St. Mary's Hospital. Dr. Chambers' career was a remarkable example of the triumph of will over bodily weakness and pain. He suffered for many years from aneurism, for which one of his legs was amputated. He continued to practice, however, and even remained on the teaching staff of St. Mary's Hospital Medical School (as joint lecturer on medicine) after he had ceased to be on the active staff of the hospital. His lectures were always interesting, and delivered in an effective manner, although he depended largely on his copious notes and lectured sitting in a chair. It is by his writings he will chiefly be remembered, combining as they did sound instruction with a polish of style rarely met with in medical works. His "Manual of Diet" was perhaps his most popular work. The return of the disease in the opposite limb compelled Dr. Chambers to retire from active work eleven years ago. Pressure was successful in effecting a cure, but he never resumed practice. At the end of last year aneurisms developed in connection with both carotid arteries, and, in conjunction with cardiac disease, led to his death. Mr. Walter Coulson, who died recently, at the age of fifty-five, had the advantages of both health and fortune to assist him. His uncle was one of the original members of the surgical staff of St. Mary's Hospital, and Mr. Walter Coulson became assistant surgeon at that institution. This appointment, however, he soon vacated in consequence of differences with his colleagues respecting his connection with St. Peter's Hospital, which he was instrumental in founding. At that date there was great opposition to special hospitals, and, piqued by the cold shoulder shown him, Mr. Coulson resigned and appealed to the governors for re-election. He was defeated by a small majority. But he continued his work at St. Peter's Hospital, and acquired no inconsiderable reputation as an authority on diseases of the urinary organs, to which he devoted himself during the past quarter of a century. His association with his uncle, Mr. W. Coulson, doubtless contributed to this result, and not only did his uncle assist him in practice, but at his death left his fortune between Mr. Walter Coulson and another nephew. As this was estimated to be between two and three hundred thousand pounds, Mr. Walter Coulson was thereby rendered independent of practice; but he preferred work, and continued in active practice, although not needing the fees it brought in. Dr. Cumberbatch was an excellent illustration of the fact that a man may attain not only success in practice and pecuniary rewards for his labor, but also no inconsiderable degree of professional reputation while toiling in the humbler walks of the profession. Dr. (then Mr.) Cumberbatch commenced practice in London about forty years ago as a general practitioner. His success was marked, and he became known to a wide circle at the West End. His opinion was especially sought in midwifery cases; so much so that in time he acquired almost a consulting practice in that department. He did, in fact,

become a physician in 1866 by becoming a member of the Royal College of Physicians, but he held no hospital or dispensary appointment.

A Real Elixir of Youth.—A physician writes to *The Lancet* as follows: "When the season began in May last, a veteran aged sixty, I thought that my tennis days were nearly numbered. A walk of four or five miles tired me. Aching and burning in my great-toe joints made walking somewhat painful. I had had rheumatism in my right shoulder for months, so that I was kept awake at night; acute pain at the insertion of the right deltoid accompanied elevation of the arm, and the left shoulder was also uncomfortable. My first day's practice at tennis was disheartening. I could scarcely serve over the net (underhand). My strokes were extremely feeble, and an overhead stroke caused agony at the insertion of the deltoid. Nevertheless I persevered, and by the end of May, after several good warmings at tennis, I lost all my pains, my joints were freer, I could run about with less aching of the feet, my strokes were more severe, and I could elevate my arm for an overhead stroke without pain. After another month's practice, playing two or three times only in the week, so as not to tire the arm too much, I was fit for tournament play, and I ended the season with winning, early in September, an open veterans' singles event. The pleasant exercise and exertion of tennis, taken in moderation, not only drove away my stiffness, my threatened rheumatism, and improved my muscular system so that I could walk fifteen miles a day, or play six or eight sets of tennis in an afternoon without undue fatigue; but it cleared my mental faculties, strengthened my perceptions, gave me a better "grasp of the situation," and rendered me more alert in my ordinary work. I still look forward to the enjoyment of future seasons and coming tournaments. A game that will thus renovate a veteran is invaluable from a medical point of view. If used with discretion, it is to the busy man more available and of greater advantage to keep him in condition than cricket, football, or any other game I know, and the accidents that happen to players of lawn tennis are very few, and not of a serious character."

A Simple Inhaler.—Dr. E. E. Maddox writes to the *Practitioner* as follows: "It may be useful to others to mention the following very simple mode of inhaling volatile remedies, such as pumiline, menthol, eucalyptus, etc., for the relief of some affections of the throat and lungs. Coil a piece of paper into the shape of a cigarette, and fix it with gum. Then insert into one end a small uncompressed piece of absorbent cotton-wool, upon which a drop or two of the desired medicament has been poured. Air is now drawn through the tube by the patient, who holds the other end between his lips. This plan is by many patients, especially by men, preferred to the use of any form of respirator, or to inhalations mingled with steam. These last, moreover, have a relaxing effect in some atonic conditions of the throat. Of a number of remedies, including menthol, inhaled in this way by a patient suffering from pulmonary phthisis, I found that oil of peppermint gave most satisfaction. A small tube of vulcanite flattened like a cigarette-holder at one end, with a raised flange or border to be held within the lips, would doubtless answer still better; but an inhaler, which when needed can be made on the spot, has advantages of its own."

Reading in Bed.—Some credit is doubtless due to those who, in despair of a cure for sleeplessness, have sought to palliate the mischief done to health by reading in bed in order to procure sleep. Their position is at best that of mere necessitarians. The advice they offer may, however, have some value for those who from some cause are physically unable to fall asleep within a reasonable time, and who will insist on reading till they do. It includes various measures intended to prevent or diminish the ocular strain thus incurred. Bathing the eyes with weak salt solution, the adoption of a sitting posture, and the use of sufficiently bright light are among the means advised. They ought certainly to check the bad effects of an unhealthy practice. We should have more sympathy, however, with any attempt to deal with the true source of mischief—the habit itself. This is in a large majority of cases unjustified by any real necessity. Whatever the cause of sleeplessness, whether an idle preceding day, a midday or evening nap, an empty stomach or an over-full one, fatigue or worry, the truest wisdom consists in removing this by the needful change of custom. All rules of treatment, such as those above stated, maintain the reading habit while they moderate its consequences. This is our one objection to them. If sleep requires to be wooed, it should be remembered that there are available, besides the treatment of causal conditions, various direct methods of diverting the mind from the outer world, and thus of inducing sleep. The use of one or other of these is, from their nature, more rational than the practice of reading in bed.—*The Lancet.*

The Construction of a New Bladder After Excision.—At the Surgical Congress recently held at Bologna, Professor G. Tizzoni, of the University of that city, and A. Poggi, gave an account of some experiments they had made on dogs, with the view of ascertaining whether the bladder could be removed and an efficient substitute constructed by operation. First of all laparotomy was performed, and a loop of small intestine about 7 centimetres in length, with its mesentery attached, was isolated by two transverse cuts, washed out with a carbolized solution, and tied at both ends, one extremity being fixed in front of the neck of the bladder. The two ends of the divided gut were then stitched accurately together by circular suture. The dog soon recovered from the operation, and a month later the second stage of the experiment was performed. The ureters were separated from the bladder, and the latter was completely removed. The loop of intestine destined to be the new bladder was then cut across at the lower end and stitched to the neck of the bladder. The ureters were then turned into the artificial bladder. A slender elastic drainage-tube was placed in the urethra to carry off the urine during the first few days. The animal recovered perfectly, and gradually acquired control over its new bladder, and when shown to the Congress, two months later, showed no sign of incontinence. The operation has been repeated with success on several other animals, and Drs. Tizzoni and Poggi are hopeful that it may be applicable to the human subject.—*Medical Recorder.*

The Danger of "Tip-cat."—The following remarks of *The Lancet* are as appropriate for New York as for London, as many of our readers can doubtless aver from personal experience: It may be thought that a game which is one of the most familiar amusements of childhood hardly merits the formality of police regulation. "Tip-cat," however, is by no means unworthy of this distinction. Its value as a pastime is utterly insignificant, but its mischievous effects on the persons of passers-by have become too common to be overlooked. The game as played by children in the street is dangerous in its very nature. No one who has come upon a knot of youngsters thus engaged can have any doubt on this point. It is enough to see the pointed "cat" lightly tipped up from the ground, and the mere attempt to strike it away at random, in order to realize very vividly the fact that one's eyesight in the presence of "tip-cat" is a very precarious possession. The experience of ophthalmic surgeons goes to show that injuries to the eye from this cause are far from uncommon. When, moreover, it is recognized that the results of injuries thus inflicted are likely to be of the most serious character, it will be evident that the public are fully entitled to call for the restriction, and even the prohibition, of this objectionable form of street amusement.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

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## Original Articles.

### DISINFECTION OF DWELLINGS BY MEANS OF SULPHUR DIOXIDE.[1]

BY CYRUS EDSON, M.D.,

CHIEF INSPECTOR, HEALTH DEPARTMENT, CITY OF NEW YORK.

WITHIN the past few years numerous experiments have been made by biologists with sulphur dioxide. They have failed in numerous instances to disinfect artificially infected rags and other material subjected to its influence.

These experiments have led biologists to pronounce sulphur dioxide unreliable in its action upon the contagion of disease.

I have had, in my official position, a wide experience with sulphur dioxide as a disinfectant, and I have been led to the conclusion that it is a thorough and an almost perfect destroyer of the infective matter of the acute exanthemata and diphtheria.

The facts that I will place before you in this short paper do not, I am aware, prove perfectly and beyond doubt that $SO_2$ is an absolutely reliable disinfectant. They seem to me to be strong circumstantial evidence in its favor, and I present them as such.

The Disinfecting Corps of the Health Department of the City of New York, during the years 1887 to October 1, 1889, fumigated, by means of $SO_2$ generated from burning sulphur, nearly every room in tenement-houses in our city that had contained cases of small-pox, scarlet fever, diphtheria, or measles. I say *nearly* every case. The aim of the Department was to have the rooms in every case fumigated; but the Corps was a large one, and occasionally a man was found derelict in his duty and had to be discharged, so that wilful neglect in a few instances caused some cases to be neglected. The method of using the sulphur was substantially in accordance with the rules laid down by the Committee on Disinfection of this Association. The sulphur was placed in a shallow iron basin, which was supported in a suitable tub containing water. Ignition was effected by means of about four ounces of alcohol poured over it.

I will take each disease separately, and by comparing the total number of cases with the number of cases that recurred, the recurrence of which could be attributed to infection left after fumigation, show the efficiency of the agent in question.

In the year from October 1, 1887, to October 1, 1888, we had in our city 321 cases of small-pox. These cases occurred in 227 houses. Eighty-two of these cases were contracted from exposure to some of the 239 original cases, nearly all of which were in their turn traced to direct exposure to other cases, either out of the city or in it. Nine cases could not be traced to their cause. They were probably due to contagion from some mild, unrecognized case, that travelled about spreading the disease. Not one single case of the disease was developed from the clothing or from the rooms in which these cases were, and from which they were removed to the hospital for small-pox. No other precaution was taken in the case of the rooms and clothing than that of fumigation by $SO_2$, in proportion of three pounds of sulphur to each one thousand cubic feet of air-space for at least two hours. This, however, was done in a most conscientious and careful manner, immediately after the removal of each case.

Again, in the year from October 1, 1888, to October 1, 1889, 7 cases of small-pox occurred in 5 houses. All were traced to their cause, which was found to be direct exposure to a previous case. Not a single case occurred from infection left in the room or clothing by any of these cases.

We always permit occupancy of rooms that have contained small-pox patients, as soon as they have been fumigated.

In this connection the effect of fumigation by $SO_2$ upon vaccine virus is interesting. On October 2, 1889, ten quill slips, charged with vaccine virus taken from a lot charged equally from the same animal, were exposed in a room $76 \times 15 \times 8$, to the fumes of one pound of sulphur for two hours. Each slip was then used to vaccinate a child that had never before developed vaccinia. All failed to effect any result. Ten other points from the same lot were effective upon all but one child of ten other primary cases. This child evidently had considerable resistance against vaccinia, as it only took after the third trial.

For the purposes of this paper, the same comparison of primary cases with secondary cases, as I have stated was done in cases of small-pox, was made of scarlet fever, diphtheria, and measles in the following streets, which were chosen as examples of the worst, from a sanitary stand-point, in the city: Division Street, Washington Street, Rivington Street, Mulberry Street, West Sixteenth Street, West Twelfth Street, East Seventh Street, East Twelfth Street, East Forty-sixth Street, East 102d Street, and East 113th Street.

Let us first take scarlet fever. From January 1, 1888, to October 1, 1889, 626 cases occurred in the above-named streets in 453 houses, and 135 secondary cases occurred in 87 houses.

Of the 135 secondary cases, 106 occurred within five weeks of the beginning of the primary cases, to the direct contagion of which they were presumably due. This leaves but 29 cases, out of a total of 626, that were possibly due to contagion left in rooms and apartments after disinfection by means of sulphur dioxide after termination of each case.

During the same period (January 1, 1889, to October 1, 1889) 515 cases of diphtheria occurred in 382 houses, and 114 secondary cases occurred in 80 of these houses. Seventy-nine of the secondary cases occurred within four weeks of the beginning of the primary cases, to the direct contagion of which they were, therefore, presumably due. This leaves only 35 cases, out of a total of 515, that were possibly due to contagion of diphtheria left in rooms and apartments after disinfection by means of sulphur dioxide after the termination of each case.

In the case of measles, 557 cases occurred in 361 houses, and 163 secondary cases occurred in 95 of these houses. One hundred and twenty-two of the secondary cases occurred within five weeks of the beginning of the primary cases, to the direct contagion of which they were, therefore, presumably due. This leaves only 41 cases, out of a total of 557, that were possibly due to contagion of measles left on the premises after disinfection by means of sulphur dioxide performed after the termination of each case.

These figures are interesting when carefully considered, and they show the relative efficiency of sulphur dioxide in the case of each of the diseases. The gas is most de-

[1] Read before the American Public Health Association, October 24, 1889.

structive to the contagion of small-pox, and next, to that of scarlatina.

due to primary cases. Some of these occurred nearly a year after the first case.

| | Total number of cases in streets named. | Number of houses containing cases. | Number of houses containing secondary cases. | Number of secondary cases. | Number of secondary cases in same family. | Number of times 2 cases reported from house in same day. | Number of times 3 or more cases reported from 1 house in same day. | Cases occurring 1 week or less after primary case. | 2 weeks or less. | 3 weeks or less. | 4 weeks or less. | 5 weeks or less. | 6 weeks or less. | 3 months or less. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| DIPHTHERIA. | | | | | | | | | | | | | | |
| January 1, 1888, to October 1, 1888.. | 237 | 180 | 37 | 50 | 15 | 7 | 2 | 24 | 8 | 7 | 1 | 0 | 2 | 8 |
| October 1, 1888, to October 1, 1889.. | 278 | 202 | 43 | 64 | 18 | 11 | 3 | 26 | 7 | 5 | 1 | 2 | 3 | 20 |
| Total..... | 515 | 382 | 80 | 114 | 33 | 18 | 5 | 50 | 15 | 12 | 2 | 2 | 5 | 28 |
| SCARLET FEVER. | | | | | | | | | | | | | | |
| January 1, 1888, to October 1, 1888.. | 253 | 191 | 36 | 47 | 18 | 11 | 4 | 25 | 8 | 6 | 3 | 2 | 0 | 3 |
| October 1, 1888, to October 1, 1889.. | 373 | 262 | 51 | 88 | 27 | 25 | 3 | 36 | 13 | 10 | 1 | 2 | 9 | 17 |
| Total..... | 626 | 453 | 87 | 135 | 45 | 36 | 7 | 61 | 21 | 16 | 4 | 4 | 9 | 20 |
| MEASLES. | | | | | | | | | | | | | | |
| January 1, 1888, to October 1, 1888.. | 302 | 183 | 54 | 102 | 23 | 27 | 2 | 18 | 38 | 13 | 2 | 1 | 14 | 16 |
| October 1, 1888, to October 1, 1889.. | 255 | 178 | 41 | 61 | 14 | 13 | 6 | 17 | 23 | 8 | 1 | 1 | 2 | 9 |
| Total..... | 557 | 361 | 95 | 163 | 37 | 40 | 8 | 35 | 61 | 21 | 3 | 2 | 16 | 25 |

In the case of measles we have an explanation of the comparatively large number of secondary cases. The disease is a mild one, speaking comparatively, and many cases are not properly isolated in the homes of the poor; consequently, rooms and materials are infected outside of the apartment in which the patient belongs, and which the disinfector fumigates. Moreover, during the past two years we have had so many cases of contagious diseases that measles have frequently not received the attention of our inspectors and disinfectors that should have been given it, scarlet fever and diphtheria taking most of the time of the men.

The contagion of diphtheria would, from our statistics, seem to resist the action of sulphur dioxide most, and to be the most difficult to destroy. This is, in my opinion, due to the manner of its infection. The other three diseases infect a room mainly by means of the medium of the air, the contagion being exhaled or given off from the body and deposited evenly over the surfaces exposed to the infected air. In diphtheria, membranes and secretions are also infected, and the contagion is protected by being surrounded by a protecting medium into which sulphur dioxide cannot easily penetrate. This is probably the reason why biological experiments with $SO_2$ are not satisfactory.

It is impossible to imitate in the laboratory nature's method of infection. The power of penetration of $SO_2$ into the culture-mediums cannot be very great. The medium must somewhat protect the culture within it, so that only those cultures are affected that are on the surface of the medium. Just as diphtheritic secretions protect diphtheritic contagion, so do culture-mediums, to a less extent perhaps, protect cultures.

In nature's method of infection the infected air is carried by draughts and air-currents into cracks and corners accessible only to a gas liberated under much the same conditions as the contagion.

*Conclusions.*—It would seem that the proper and most practical method of disinfection of dwellings, after the occurrence in them of exanthemata and of diphtheria, is by means of sulphur dioxide, and that all clothing, bedding, etc., used in direct contact with the patient, should be removed to a disinfecting station, properly equipped, and there subjected to heat of sufficient intensity to destroy all contagious matter. This in future will, I believe, be the method pursued by the Health Department of the City of New York.

ADDENDA.—The above table shows the details of the cases I have given. It will be seen that a large number of the secondary cases occurred three months and over from the beginning of the primary case.

Many of these secondary cases occurred in other apartments in the same house as the primary case, but were probably not due to contagion from it. It is impossible, however, to say that they were not caused by the first case. I have counted them among the cases possibly

In the discussion of this paper by the American Public Health Association the method of fumigation was criticised, it being alleged that not sufficient moisture was present with the sulphur dioxide to insure the best results. A very important point in this connection was brought out. The use of alcohol to ignite the sulphur, as described in the paper, adds materially to the moisture in the air of the infected rooms. The amount of alcohol used is, as I have stated, about four ounces to each charge, say of six pounds. This amount of alcohol will develop fifty quarts of steam, approximately. To Dr. E. H. Bartley, of Brooklyn, I am indebted for this estimation and suggestion.

## RACHITIC PSEUDO-PARAPLEGIA.[1]

BY HENRY W. BERG, M.D.,
NEW YORK.

I AM about to discuss a class of cases which have received but little attention from writers upon rachitis. The bone lesions in this disease are so prominent, and seem to be so essentially the disease, that all other phenomena connected with the condition are overshadowed and far less studied than would be proper from their intrinsic importance. The view that rachitis is a disease of the bones *per se* is no longer maintained. It is certainly recognized to be a disease of the blood, affecting all the structures of the body, with lesions especially located in the osseous tissues; not limited to these, however, but affecting very materially the muscles and fibrous ligaments and tendons. It is not my intention, in this paper, to discuss all the effects of rachitis, but I shall call attention to those cases in which general rickets is accompanied by an inability to use the lower extremities owing to muscular disability. The symptomatology of this class of cases is about as follows: A little patient, from two to four or even five years old, is found to be unable to walk; or, among the younger cases, unable to stand erect, or even sit up. The amount of disability varying with the severity of the case and the youthfulness of the patient. The parents find that at an age when other children are creeping their child makes little or no effort to creep—later on there is no voluntary effort to stand erect; and when the little patient is held erect by the arms, the knees bend under the weight of the body. Voluntary attempts to stand are not made at all, or made only when the patient is long past the age when other children are running about. Other, generally older, cases are found who, although they stand erect when held, or when they support themselves by holding on to surrounding objects, yet do not dare to make the attempt to walk, or if they do attempt to walk they go with their feet and legs spread wide apart, so as to obtain a better basis of support, and with the body bent forward in the effort to maintain their equilibrium. Their

[1] A paper read before the Orthopedic Section of the New York Academy of Medicine, October 18, 1889.

progress is accentuated by frequent stumbles and falls—the little patient walks like a partial paraplegic. In short, we have all grades of muscular disability, varying in degree from total inability to use any of the muscles whose function necessitates the partial or complete erect posture of the body to a slight weakness in standing and walking.

Such is the history obtained from the parents. Examination of the patient shows a typically rachitic body; fontanelles wide open long beyond the age when they should have closed, the bosse on the frontal and temporal bones large and prominent, the other portions of the cranial bones transparent and thin even to the point of craniotabes. The junction of the ribs with the costal cartilages is marked by the so-called rachitic rosary. The joint-ends of the long bones are enlarged, and the abdomen is large with a distinct upper boundary externally, corresponding to the bony insertion of the diaphragm, which, in its rhythmical action, has drawn the ribs inward. The pelvis is flattened posteriorly in those patients who have not yet learned to sit up. The long bones of the leg show little or no deformity, inasmuch as these patients have avoided standing and walking. There is no bow-leg or knock-knee present as a rule. In other words, the deformities due to the use of the lower extremities in the soft stage of the osseous disease are absent. An important diagnostic point, however, is that the bony prominences present at the muscular insertions are felt to be exceedingly tender. Thus there is pain on touching the patella, the external and internal condyles, and the upper portion of the tibia. This excessive tenderness at the points of muscular insertion is due to a great extent to a chronic periostitis, which results in the thickening at the joint-ends to which I have just referred. There is in addition a certain amount of tenderness in the body of the muscles; this is a factor to a greater or lesser extent in all cases of rickets, but is excessive in the paraplegic patients. Pressure of the mass of the limbs, which in other children causes laughter, will here give rise to a cry of pain. These children wish to be let alone. Although many children suffering from general rickets are fat and well-nourished in appearance, with rounded cheeks, soft and flabby muscles, the cases under consideration are, as a rule, pale and thin; the skin excessively white, with the capillary vessels well marked. The muscular tissue has little or no adipose covering, which accounts, I think, for the hypersensitiveness of the muscular nerves of sensation; the skin hangs loose and flabby, and the little patients present all the features of malnutrition, resembling often cases of marasmus, without, however, giving a history of diarrhœa or marked stomach affection.

Although presenting the more or less perfect paraplegia to which I have referred, a careful examination of the patient in the recumbent posture shows that the little one has good control over the various movements of all the joints. Beginning with an examination of the lower extremities we find that as the patient lies upon his back he can flex, adduct, abduct, rotate, and extend the thigh, these movements all being performed by the child in its effort to remove the limb from irritations, such as pinching, pricking with pins, etc., on the part of the examiner. When we hold the little patient's attention and raise the limb we will be able to demonstrate the presence of that partial cataleptoid state common to infancy. Thus in raising (flexing) the hip-joint the contraction of the psoas magnus will retain the limb in the position in which it was placed, for a few seconds. In this way we can demonstrate the fact that every muscle retains its power intact. The motions about the knee- and ankle-joints are perfectly and voluntarily performed, or are shown to be present by the cataleptoid test. On the other hand, while in healthy children, in the recumbent posture the whole leg extended at the knee can be flexed on the pelvis, and retained for some time in the straight position without drooping, these little patients manifestly find difficulty in keeping the extended limb flexed upon the pelvis, for even a short time. Some will not make the effort, others will allow the leg to fall immediately after having straightened it. In other words, they are unable to support the weight of the limb in the elevated position and as a result it falls.

From their inability to stand and walk these patients are supposed by the parents to be paralytic. The physician is consulted, and it becomes of the utmost importance to be able to make a positive differential diagnosis between these cases and the various forms of true paralysis affecting infancy, the more so from the fact that the prognosis in true rachitic pseudo-paralysis is excellent for complete recovery, while that of paraplegia due to lesion of the cord or brain, I need not say to this audience, is in many cases a hopeless one.

I shall be excused, therefore, for dwelling unduly upon the points of difference between paralysis due to organic disease of the nervous system and the functional paralysis of rickets. At the same time the remaining symptomatology of rachitic paralysis, which is chiefly negative, will be brought out without the risk of otherwise unavoidable repetitions.

*Differential Diagnosis.*—The most frequent form of organic paralysis occurring in infancy is poliomyelitis of the anterior horns. Cases of this disease in which the paralysis is paraplegic might possibly be confounded, in rachitic children, with rachitic pseudo-paraplegia. A careful examination will serve to reveal the points of difference. In poliomyelitis the limb is atrophied and surface cold. In rachitis there is neither atrophy nor cold surface; the patient may be thin, and ill-nourished, but the appearance is not in any sense that of general muscular atrophy. Examination of the patient's power in the affected limbs also shows the radical difference that while in infantile paralysis there is real paralysis, so that the patient has lost all power in the affected muscles, in rachitic pseudo-paraplegia there is no paralysis, but only weakness, so that the patient has perfect use of the muscles except when these muscles attempt to perform voluntary motions and support the weight of the body and limb at one and the same time. The patellar reflex while preserved to its normal extent in rickets, is generally diminished in cases of paraplegia due to poliomyelitis. Finally, the battery will serve to differentiate the two affections, the faradic current yielding no response in the muscles affected by infantile paralysis, while in rickets faradic contractility is preserved and normal, so also the galvanic reaction of degeneration so characteristic of all paralysis due to disease of the peripheral motor nerves and anterior gray horns in the spinal cord while present to a marked extent in cases of poliomyelitis of the anterior horns, is absent in cases of rickets, the latter shows the normal reaction, Ca.C.C. > An. C.C., Ca.O.C. < An. O.C., or entirely absent. These points of difference will readily serve to distinguish cases of infantile paralysis from the pseudo-paralysis of rickets.

Not so readily distinguished, however, are recent cases of post diphtheritic paralysis, and paralysis following cerebro-spinal meningitis. In the former, recovery is the rule, because the lesion of the nervous centres is a temporary one. Hence the reactions of degeneration and atrophic appearances are absent; furthermore, the paralysis, while affecting both lower extremities and back, is frequently partial and does not completely paralyze all motion in the affected extremities and back. Thus the disability, like that in rachitic paraplegia, is most marked when the muscles are exerted in such a position that they are compelled to support weight and perform motion at the same time. The diagnosis will rest to a great extent upon the history of the case, recent origin of the paralysis, the preceding occurrence of diphtheria, above all the involvement of the muscles of the naso-pharyngeal and laryngeal region, resulting in difficulty in swallowing and speaking, an examination of the faucial arches showing paralysis of the anterior portions of the fauces, and diminution of the patellar reflex. All of these points will generally serve to distinguish the two affections. So

also in temporary paralysis following cerebro-spinal meningitis, the history of the case, together with the presence of real paralysis affecting the cranial nerves, will serve as diagnostic features, while cases in which the lesions of the nervous system have become permanent will resemble those suffering from hemiplegia and paraplegia due to cranial disease, with which rachitic pseudo-paralysis can scarcely be confounded. Cases of tetanoid paraplegia or spastic paralysis do not resemble rachitic pseudo-paralysis in any respect, except that in both the paralysis is not really a paralysis. Mild cases of spastic paralysis might lead to a question as to diagnosis, but the increased patellar reflex, the exalted muscular activity, apparently beyond the control of the patient, frequently, retarded mental development as an accompaniment of the similar condition of the motor areas in the brain, will differentiate these cases from those of rachitic pseudo-paralysis. Cases in the early stage of the paraplegia occurring in the course of Pott's disease, when the paralysis is due to the pressure of meningeal exudation products upon the anterior portion of the spinal cord, rather than to an organic affection of the cord itself, might readily be confused with this affection, particularly if the kyphosis, being but slight, had not been noticed. Here the paralysis might develop very slowly, and would be but partial. The rachitic curvature of the spine might help to confuse the diagnostician. A careful examination of the spine will reveal the Pott's disease of the lower dorsal vertebræ. The symptoms of vertebral disease in this region, such as psoas contraction and psoas abscess, also, occasionally, paralysis or weakness of the bladder accompanying the paralysis of the lower extremities, all of these, will aid in arriving at a proper diagnosis.

The pathology of this condition is the pathology of rickets. The rachitic dyscrasia is the cause of the muscular weakness in rachitic pseudo-paralysis. We must not forget, however, that in rickets there have been observed, by very reliable observers, cases in which paralysis, evidently of cerebral origin and generally hemiplegic in distribution existed. Post-mortem findings, however, in these cases showed the lateral ventricles filled with fluid, and the cerebral convolutions, about the motor area particularly, flattened and compressed, so that these are really cases of hydrocephalus accompanying rachitis. It is uncertain, however, whether such a condition is to be considered a complication or an effect of the rachitic disease of the blood. Under no circumstances are they at all comparable to the cases of idiopathic paralysis which we are considering.

It becomes a subject for inquiry as to the pathogenetic connection between the rachitic disease and the pseudo-paralysis which we have described. To understand this we must consider the mechanics of muscular activity. When by the contraction of its muscles a limb is set in motion and made to perform work, the sum total of the work performed consists of the following elements. 1. Counteracting the weight of the limb to be moved. 2. Imparting to the limb or member the force necessary to perform activity. The sum of the two is the amount of muscular work. It is evident that in standing quietly the entire amount of work is spent in maintaining the stiffness of the joints, and counteracting their tendency to yield under the superincumbent weight of the body and limbs, while in walking more work is performed, the body being supported and carried, at the expense of friction and other impediments, over space. Both of these things simultaneously the muscular tissue, weakened by the imperfect nutrition of the rachitic blood, is unable to perform in some cases; in others, while the utmost force exerted suffices to support the body in the erect posture there is not sufficient strength to carry that body over the ground. If, however, the weight of the body is supported by some other means, such as the hands of an assistant, then the movements of walking are frequently very well and even firmly performed.

This explains why these patients can move their limbs in every conceivable direction while in the recumbent posture. Here they support only the weight of the limb, and not of the whole body. So also these patients can use the upper extremities, although it will be found that when they attempt to lift weights such as other children can readily raise they fail lamentably.

This disability is furthermore increased by the flaccidity of the ligaments, the softness of the bones or levers by which the muscles act, and the rachitic periostitis present, particularly at the points of muscular insertion. It is to this periostitis, I think, that much of the thickening at these points is due, and also the tenderness to which I have already referred. Finally, the pain in the muscular tissue is also an important element in the disability of these cases. While pain is present with every motion the little patients instinctively prefer to keep quiet.

*Prognosis.*—It is a gratifying fact that the treatment of these cases is uniformly successful, and where an improper diagnosis has been made, often very brilliant. These are the cases that give such good results after circumcision, not owing to any virtue in that operation, as far as the rachitis is concerned, but because they uniformly get well. Indeed, to recognize the nature of the disability is of far more importance than the treatment.

One of my own cases, treated at the Orthopædic Dispensary some three years ago, may be interesting in this connection. John S——, two years and eight months of age at the time of application at the dispensary, which was September 23, 1885. At that time he suffered from what the examining surgeon considered atrophy of both lower extremities, which, however, appeared to me to be the wasting of malnutrition and disuse. Patellar reflex normal, or slightly exaggerated; contracted prepuce. While under examination by the examining surgeon, there seemed to be some rigidity of the adductors of the leg and the muscles about the knee-joint. The patient was said by the parents never to have stood alone, and certainly he had never made any attempt to walk. The boy was therefore referred to the neurological class, which was then under my care, with the diagnosis of "slight spastic paralysis" upon his card. On examination I found him typically rachitic, large forehead, fontanelles not yet closed, features delicate, skin abnormally white, veins marked; absolutely unable to stand or walk, spine slightly curved, patellar reflex slightly more marked than usual. Spastic condition of the adductors above referred to evidently owing to fear—patient fearing the application of force in stretching the prepuce, a former examination by an eminent Albany surgeon having pained him very much. This surgeon had advised circumcision as the only mode of curing the paralysis, which he considered the reflex result of the long and contracted prepuce. I made a tentative diagnosis of rachitis with pseudo-paraplegia, put the boy under massage by the parents at home, electricity, and anti-rachitic diet.

In addition phosphorus was given alternately with iron. In less than six weeks the patient was able to walk, and on November 17, 1885, I find the note in dispensary records that the patient walks very well, although awkwardly. He was discharged perfectly cured in the spring of the following year.

Such will be the result of proper treatment in all cases of rachitic pseudo-paraplegia. And frequently these cases would get well in spite of any form of treatment.

Treatment of this condition should be directed locally to the weakened muscles, and generally to the system at large to counteract the effect of the rachitic malnutrition. I consider the latter indication more important than the former. Remove or improve fault of nutrition and muscles will gain strength sufficient to perform their physiological work. A proper diet is, of course, of the utmost importance. This I consider to be that form of diet which will be most readily digested by these patients,

without regard as to whether the articles of food are rich in phosphates or not. These children should have a great deal of milk—no tea and no coffee. Cocoa, made very thin, is desirable once a day. They should eat lean meat not oftener than once a day, plenty of beef-broth, all of the lighter cereals, and small quantities of the lighter fruits. Nothing that is indigestible and which experience has shown to be indigestible in any given case should be given. Cod-liver oil, if digested, will do good in small doses; it should not, however, be given in emulsion with the hypophosphites, for these salts are not only utterly inert, as I shall show, but being frequently mixed with syrups are apt to interfere with the digestion of the oil. As to medicines, we have in rachitis one of the diseases for which experimental physiology has given us a remedy. I consider that one of the most positive facts in therapeutics is the beneficial effect of phosphorus in the cure of rickets. I make this assertion on the strength of Wegner's investigations. He fed young and growing animals (rabbits and fowls) particularly, with small, non-poisonous and easily assimilated doses of finely-divided phosphorus during periods of many months, and arrived at positive conclusions.

He found that in these animals thus fed, those portions of the long bones in which the original cartilage becomes ossified into cancellous tissue underwent a firmer form of ossification than in animals that had not received the phosphorus. In the former, instead of cancellous tissue, spongy and filled with marrow, firm and compact bony substance, like that formed on the outside of the long bones, is found. But the cancellous tissue formed before the administration of the phosphorus remains unchanged at first; in animals killed later on this cancellous tissue is found be absorbed to form the medullary canal. The bone formed under the influence of the phosphorus diet was found to be well-formed bone. The microscope showing not the large marrow-spaces of ordinary cancellous tissue, but spaces contracted to the size of the Haversian canals in compact bone-tissue, and the cartilage-cells converted not into marrow-cells, but into bone-corpuscles surrounded by the proper amount of intercellular substance. If the phosphorus diet is continued the whole of the cancellous structure is converted into compact bone-tissue. Even the portion of the bone developed from the periosteum, ordinarily hard and compact, was found by the microscope, in phosphorus-fed animals, to have become finer in structure, with the Haversian canals smaller though never entirely obliterated. Even in older fowls fed on phosphorus for a long time, the bones were found to have the cancellous structure entirely absorbed, and replaced by compact tissue, while the medullary canal was entirely filled by compact bony tissue, so that the bones were no longer tubular, but compact bony masses. The chemical composition of bone in animals fed on phosphorus for a long time was found to be unchanged, there being neither more nor less phosphorus than should be present in the normal composition of bone. Wegner furthermore showed that animals thus fed on non-poisonous quantities of phosphorus increased in general size and strength, the *muscles particularly*, as well as the bones of the body, becoming stronger. I do not think that there is any other remedy in the whole range of therapeutics for which experimental physiology has borne so strong a testimony. I have, accordingly, since reading Wegner's investigations some five years ago, been accustomed to give phosphorus as a nerve-tonic, and above all, as a specific for rickets in children. So great an authority as Dr. A. Jacobi, in this city, I have heard speak in the most enthusiastic way about the action of phosphorus in the latter condition. I do not give the phosphorus with oil, but prefer, and have always had satisfactory results from the use of Thompson's Solution. This, as you know, is a solution containing $\frac{1}{100}$ grain to the drachm. I find that the mixture made by Hazard, Hazard & Co., although not in all respects like the original formula, is a very good one, the odor of phosphorus being entirely absent.

The formula used by this firm is as follows:

| | |
|---|---|
| ℞. Phosphori | gr. j. |
| Alcohol. absolut. | ♏ cccl. |
| Spt. menth. pip. | ♏ x. |
| Glycerinæ | ʒ ij. |

M. and Sig.

Of this mixture I give to a child, two to four years of age, six minims t.i.d., to be increased one drop weekly until ten drops are given, larger doses I do not think necessary. For younger patients correspondingly smaller doses will be best.

Other tonics, such as iron, small doses of nux vomica, etc., are indicated in the anæmia accompanying the rachitis.

As to the local treatment it consists chiefly of massage and electricity. Massage should include passive movements of the joints and kneading and rubbing the various individual muscles, remembering, however, the hypersensitiveness of these patients, and accommodating the severity of the treatment to it.

The most valuable agent locally to the weakened muscles and limbs is undoubtedly electricity. It acts by setting the muscular fibres into contraction without putting the strain of voluntary muscular effort upon them. Furthermore the electric current acts as a mild rubefacient and general stimulant to the nerves and muscles. For the purpose of muscular contraction, I use the faradic current no stronger, however, than is necessary to throw each of the muscles into contraction. The principal muscles should be selected for individual treatment and caused to contract a few times under the influence of the current. As a general stimulant galvanism is indicated and should be used on alternate days with the faradic current. I generally apply a descending current, placing the positive pole on the spinal column at the mid-dorsal region, while the negative pole is passed up and down the extremities. Applications should not exceed five minutes in duration for each limb.

245 Seventh Street.

## REPORT OF A CASE OF CONGENITAL DISLOCATION AT THE HIP.

By JOHN RIDLON, M.D.,

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D. K——, female, aged ten and one-half years, came under observation February 16, 1888. She is the eldest of two children of healthy parents. When she began to walk, at fourteen months, she limped, and it was noticed that the right leg was shorter than the left. No cause could be assigned; she had never hurt herself sufficiently to cry. Nothing had been done in the way of treatment; and she was brought for advice about a high shoe.

*Examination.*—She walks with a very decided limp; the right leg is rotated outward; the thigh is flexed on the pelvis, and the lumbar spine is lordosed. It requires a blocking under the foot of three inches to enable her to stand fairly erect. (See Figs. 1, 2, and 3 next page.)

From anterior superior iliac spine to inner malleolus, right, 26½ inches; from anterior superior iliac spine to inner malleolus, left, 28¾ inches; from great trochanter to outer malleolus, right, 27⅝ inches; from great trochanter to outer malleolus, left, 27⅝ inches. The right great trochanter is 2½ inches above Nélaton's line. The head of the femur cannot be made out. All movements at the joint are normal, except extension and outward rotation. I suggested an attempt to increase the length of the limb by prolonged traction in bed, with the hope of eventually reducing the dislocation. Some months later the family came into town for this purpose, and the photographs, from which Figs. 1, 2, and 3 are taken, were made by Dr. Ogden C. Ludlow, on February 24, 1888. Two days later, on February 26, 1888, the old pattern of the Taylor extension hip-splint was applied and the leg elevated on an inclined plane. From this on for one year the child

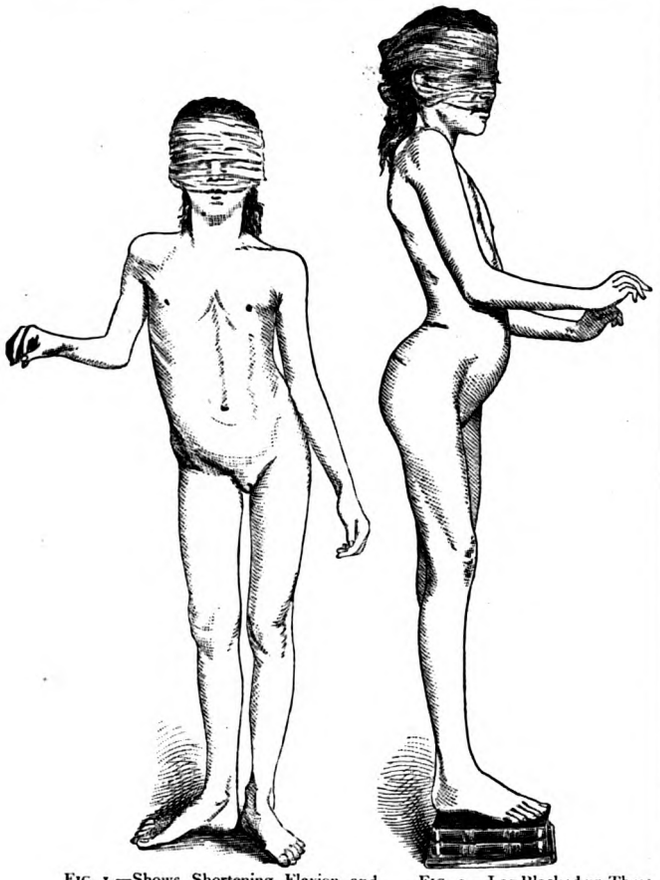

FIG. 1.—Shows Shortening, Flexion, and Outward Rotation.

FIG. 2.—Leg Blocked up Three Inches. Shows flexion of thigh, and lordosis of lumbar spine.

did not leave her bed, and no relaxation of the traction was once permitted. The inclined plane was lowered from time to time, and removed altogether after about six weeks. During the first two months the elongation of the limb was rapid, an inch in length being gained in that time; afterward it was slow. After eight months the tissues about the joint were thinned down sufficiently to make it possible to locate the head of the femur, which was found displaced upward and forward, lying almost directly below the anterior iliac spine. This position was confirmed by Dr. Frank Hartley and Dr. L. W. Hotchkiss, who saw her with me in January of the present year (1889). The head of the femur could then be brought around directly over the acetabulum. To do this, however, it was necessary to rotate the limb inward a quarter of a circle. It seemed as if, in the process of growth with the femoral head in the abnormal position, the neck had been twisted around to the front. As the parents would not consent to an operation to correct this twist, it was thought wiser to be satisfied with the increased length of the limb without a reduction of the dislocation, than to further attempt to replace the head, and thereby cause the foot to be rotated inward to a right angle with the other foot. To this end, then, a jointed splint was applied February 1, 1889, and the patient was allowed up. At that time the difference in the length of the limbs, as measured from the anterior superior iliac spine to the inner malleolus, was an inch; at the present time this has been reduced to one-half inch. (See Figs. 4 and 5, from photographs by Dr. Ogden C. Ludlow, on September 2, 1889.)

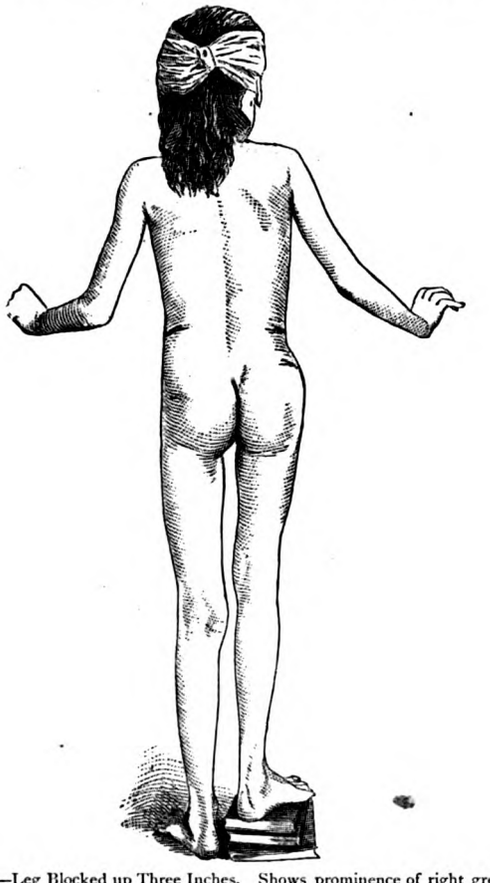

FIG. 3.—Leg Blocked up Three Inches. Shows prominence of right great trochanter. The upper lines are at the iliac crests, the lower ones at the great trochanters, showing the upward displacement.

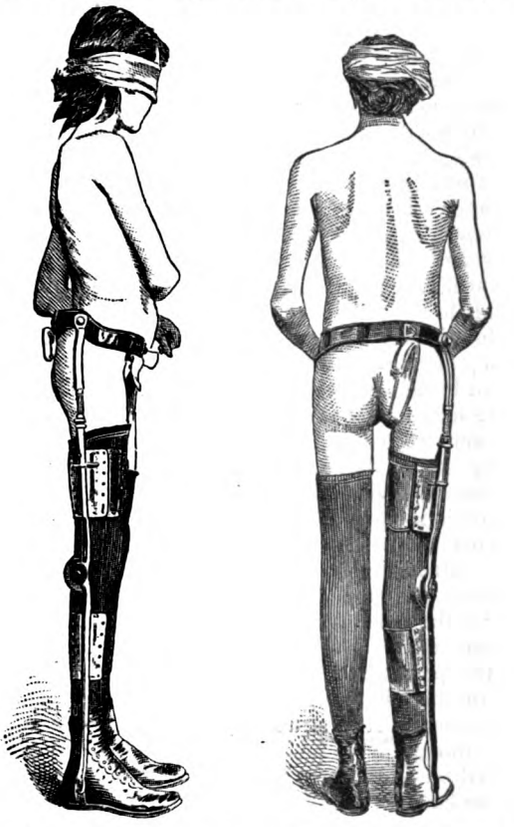

FIG. 4.—Same Position as Fig. 2, with the Jointed Splint Applied, but without Blocking Under the Foot. Shows reduction of lordosis and elongation of leg.

FIG. 5.—Same Position as Fig. 3, without the Blocking Under the Foot. Shows elongation of the leg and the reduction of the deformity.

This case is interesting on account of the direction of the dislocation (I have not been able to find another such case recorded) and because so much improvement resulted from the prolonged traction. I was disappointed, however, in not getting such a result as that reported by Dr. Buckminster Drown, in his case reported in 1885.

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PULMONARY PHTHISIS IN SOUTHERN RUSSIA.—According to some statistics collected by Dr. Glavatski, the number of deaths from phthisis in Tiflis is about three hundred and sixty per annum, or nearly fourteen per cent. of the deaths from all causes.

## TUBAL PREGNANCY TREATED BY FARADIC CURRENT.[1]

By HENRY F. WALKER, M.D.,

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Mrs. S—— had been for some time a patient. She was twenty-three years of age, small, but of full figure, and had, when nineteen, borne one child. Her labor had been at that time a tedious one, finally an instrumental one, and convalescence had been tardy, though she regarded her final recovery as complete.

When her boy was three years old she became a patient of mine, and, as she and her husband greatly desired increase of family, I made an examination to ascertain, if possible, the reason of the acquired sterility.

A vaginal examination showed that there had been, at some time, plastic effusion about the uterus. That organ was slightly retroverted, and somewhat adherent by its posterior surface, so that it could not be replaced without some hazard. There was also a slight cervical laceration.

The existence of these pointed out the probable cause both of her slow convalescence after confinement and the subsequent sterility.

The examination was made not long before the beginning of the summer hegira, and treatment was suspended till her return in the autumn.

For the illness to be detailed I was first called to see Mrs. S—— September 24, 1888.

She had complained since August 12th. Menstruation should have occurred on the 12th, but was deferred till the 14th, when there was a slight show, which ceased after two days, to reappear, but only as a stain, through the remaining days of August and up to September 19th. She had just previous to this last date made the journey to town, about twenty miles. The flow stopped two days, and again began.

Besides the protracted, inconsiderable flow, the patient suffered from constant heavy pain and tenderness in the lower part of the abdomen, chiefly in the left inguinal region.

My partner, Dr. Swift, saw Mrs. S—— at her country home, August 27th, but she declined to have an examination.

September 8th, the date of menstrual epoch, she had, as she described it, a dreadful attack of pain accompanied and followed by abdominal soreness, but no increase of flow.

September 11th she had another very violent and persistent attack of pain. To her friends she seemed almost in collapse. "She looked like a dead person, deep circles under her eyes, and her face drawn and pinched, with cold forehead, nose, and chin."

September 14th, she was removed to town, and was seemingly somewhat improved.

September 24th, late in the evening, I was called to see Mrs. S——, and found her in pain, which, to my judgment, was very intense, though said to be less severe than some previous ones. It was relieved by the hypodermic needle with morphia; and I made a vaginal examination.

This showed the uterus to be in right retro-latero version, moderately fixed, and slightly enlarged. Save the slight enlargement, the condition of the uterus was the same as at the previous examination.

On the left side, lying low down, but easily separable from the body of the uterus, I could, by the bimanual method, readily define a semi-fluctuating tumor, in size and shape like the bulb of a Davidson's syringe, perfectly movable, but exquisitely tender.

This was described as the site of all previous pain and soreness.

I recognized it as a probable, extra-uterine tubal pregnancy. This, I must confess, had not, until examination, occurred to me as the condition likely to be found.

Inquiries made after this vaginal examination, brought out the facts of quite constant nausea during the month of August. The breast signs were also those of pregnancy.

I much desired a consultation with some of the ovariotomists, but I was afraid to have it. The consensus is so far in favor of an immediate laparotomy that I feared I might risk my patient's life were this treatment adopted. I determined to delay at least a day or two, treating the patient, and holding the surgical procedure in reserve. The sac, though very tender to touch, did not seem so tense as to excite alarm that it would burst at once. I waited for Dr. Thomas, who was still out of town, thinking he would agree with me in methods to be used.

September 25th.—With the patient on the back, brought to the edge of the bed in the French obstetric position, I introduced a metal ball electrode into the rectum, just beneath the tumor, and passed a current the full strength of a freshly-fitted Kidder's faradic one-cell battery through the tumor. The positive electrode was a broad sponge placed on the abdomen just over the tumor. The current was used for fifteen minutes, and was well borne by the patient.

Electricity was exhibited in this manner each day for five days.

September 26th, the day after the first application, the patient had no recurrence of severe pain, and felt relief from the general abdominal pain.

September 28th.—She had a very little pain, "but of a different character."

September 29th.—The facial expression has markedly changed, the anxious look has gone.

October 2d.—Dr. Thomas saw Mrs. S—— with me, and said the diagnosis was undoubtedly correct.

I used electricity October 1st, 4th, 9th, and 13th.

After the first application of electricity there was no increase of size of the tumor, but I could not appreciate its decrease until October 20th, when it was markedly smaller.

There was uterine discharge till October 20th. This was shreddy. It was not further examined.

This case adds one illustration to the established fact that in extra-uterine fœtations there is usually some uterine misplacement.

The position in which the enlarged tube was felt was due doubtless to the special displacement and adhesions. Otherwise the tube would have sunk into Douglas' cul-de-sac.

I report it, however, because it shows the efficiency of the faradic current in destroying the misplaced fœtus, and arresting sac-growth. Many a physician has a battery, and skill in its use, who has not the ability to do a successful laparotomy.

If the electrical current is effectual, it is without hazard to the mother, and in trying to do good it is most desirable not to do harm.

The only possible objection is delay; but if used before the sac is so tense that stimulated muscular action in the tube endanger rupture, it is safe.

At a later stage than my own case I should advocate its use, and if growth were arrested should postpone laparotomy till some threat of poisoning should come from the retained fœtus.

In early cases absorption is likely to be complete without septic change. In the case narrated, at last examination no trace of the tumor could be detected.

[1] Read before the Practitioners' Society of New York, November 1, 1889.

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Late Pregnancies.—Dr. A. E. Mossman, of Westminster, Mass., writes: "As I notice continued reports of late pregnancies, I will contribute one. Mrs. C——, of Westminster, Mass., married late in life, at the age of forty-seven, and became pregnant and was delivered, at the age of forty-nine years and ten months, by forceps, of a male child weighing eleven and one-half pounds, in April, 1886."

# SURGICAL OPERATIONS FOR THE REPAIR OF RUPTURED PERINÆUMS.

By A. B. CARPENTER, M.D.,

CLEVELAND, O.

The great number of articles that have, from time to time, appeared in the medical press, taken together with the very exhaustive descriptions in the text-books on this subject, would seem to have covered the ground so completely as to scarcely warrant anything more in this direction; yet, there having appeared recently an article on this subject in a prominent English journal, the views of which, I believe, differ so widely from those of the American gynecologists, that I have ventured to defend some points that the author of the paper had taken the pains to so strongly condemn. Also to mention briefly some practical points that have come under my observation regarding the operation, as well as the after-treatment of the case.

Dr. Fancourt Barnes published a very brief article, together with a report of a number of cases, in the August number of the *British Gynæcological Journal*, wherein he described the repair of these injuries by the flap-splitting method as devised by Mr. Lawson Tait; and in order that I may do him no injustice, I will take the liberty of quoting him. He says:

"It is now four years since I first resorted to Mr. Lawson Tait's method of restoring ruptured perinæums by flap-splitting. From the first, the operation gave such satisfactory results, that I have treated every case which has come under my care by this method. . . . The old plan of paring away the mucous membrane of the vagina is most unscientific, as each time the operation fails the patient loses some vaginal tissue, until in some cases I have seen most of the posterior vaginal wall has disappeared. . . .

"I feel sure that medical men, who have only seen the results of the old operation, naturally hesitate to advise perinæorhaphy in cases of lacerated perinæums, because they know that it is always possible that the patient may be in a worse condition after the operation than before. . . . In cases where the rupture is incomplete, the operation is indicated to prevent the occurrence of cystocele, rectocele, or prolapsus."

Before going on to a consideration of the statements made by Dr. Barnes, I wish to say that I am an advocate of the denudation method for the repair of lacerations of the perinæum, and I know of no operation that gives greater relief, especially where the patient has suffered entire loss of the pelvic floor. That Dr. Barnes has secured good results by the flap-splitting plan, I would not for a moment pretend to question; yet when he asserts that "the old plan of paring away the mucous membrane of the vagina is most unscientific," a protest would seem not entirely out of order.

That Dr. Barnes found it advisable to adopt some method other than the "paring" one, is not at all strange, for he says he "feels sure that medical men naturally hesitate to advise the operation, because they know that it is always possible that the patient may be in a worse condition after the operation than before."

If his results were so unfavorable as one is led to infer from the foregoing quotation, it is not at all strange that he was inclined to abandon the "paring" and adopt the flap-splitting method. The failure of the former plan in his hands, I will venture to suggest, may not have been so much in the plan as in the operator, and that a careful observation of the general detail of the work would possibly have prevented the medical men from hesitating to advise, etc.

Be that as it may, I will try to place before the reader a few points to substantiate the position I have taken, viz., that for a majority of cases there is no method that will give the results that can be obtained from the denudation plan. But to obtain these results a scrupulous observance of a few points is imperative. What are the points? *a*. Antiseptic precautions. *b*. A smooth, even denudation. *c*. Continuous irrigation during the paring. *d*. Retaining the fingers in the rectum until the sutures are all in place and ready to be tied. *e*. The control of the bleeding from the denuded surface before the sutures are tied. *f*. The number of days the sutures are to remain before removal. *g*. The method of removing them. *h*. Attention to the bowels.

Fig. 1.—Dr. Howard Kelley's Rubber Cushion.

*Antiseptics.*—The patient should be placed in a lithotomy position, with the hips well forward to the edge of the table, and a rubber cloth, or, what is much better, a rubber cushion, as devised by Dr. Howard Kelley (see Fig. 1), placed beneath the hips to conduct the water into the jar beneath. By the use of such a contrivance any amount of water can be used, and at the close of the operation everything remains neat and tidy. The vagina should be first thoroughly cleansed by a hot solution of bichloride 1 to 3,000. This cannot be done with too much care. The index and the second fingers of the left hand are then introduced into the rectum, and the posterior vaginal wall is again cleansed. Two lateral retractors are then introduced into the vagina and held in place by assistants, and with the two fingers of the left hand still in the rectum, with a sharp pair of curved scissors in the right, the work of denuding is ready to be begun.

I usually make the denudation something after the plan of Simon (see Fig. 2). I have adopted this method

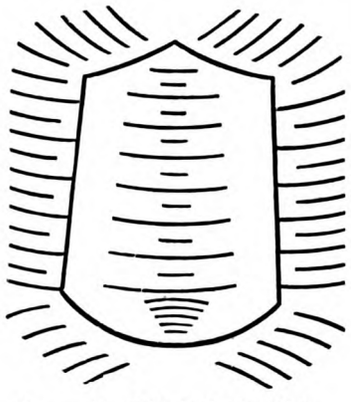

Fig. 2.—Simon's Method of Denudation.

for the reason that in my hands it has given me better satisfaction than any other I have tried. By this plan the vagina is narrowed to a greater degree, the uterus has a much better support, and rectocele and cystocele are less apt to follow than by any method with which I have had experience.

During the process of denudation, the bichloride is allowed to run continuously, and no sponge or other absorbing medium is made use of. Should the field become obstructed by a clot, the thumb of the left hand can easily brush it away. I carry the denudation up as high as I conveniently can, but always beyond the crest of the rectocele, and the entire field, as exposed by the retractors posteriorly, is made fresh. Great pains is taken that no uneven places be left, or, what is still more important, no undenuded points remain. As soon as the bleeding has been stopped the sutures are ready to be put in. With the two fingers still in the rectum, an assistant arms a needle of proper curve and length with a braided silk suture, and placing the needle in the holder, hands the same to the operator, who inserts it into the highest part of the denuded surface, taking pains to include only a small portion of the mucous membrane at point of entrance and exit of the needle; the remaining sutures are

then placed in position, the two fingers in the rectum acting as a guide for the needle (Fig. 3). When the sutures are in place and ready to be tied, the fingers should be withdrawn from the rectum and thoroughly disinfected. Attention is now given to the denuded surface, and if there is bleeding it must be arrested; much depends upon this point. Union by first intention is delayed when there is blood left and included in the closing of the wound.

Pressure for a short time with a piece of damp absorbent cotton or sublimate gauze, will usually leave the parts in perfect condition for closing. The cotton or gauze should be damp lest dry particles be left, thus proving irritating, and delaying union. When the sutures are all tied and the ends cut, a row of knotted sutures will be found to extend downward and backward to a point a little way in front of the cervix, and directly in the median line of the new pelvic floor. It is my custom to put in two sutures through the integument and new perineal body for the purpose of supporting the parts, and thus take the strain off the inner stitches. The work completed, the rectum is stretched, as the patient suffers less pain when this is done. The patient is put to bed and the water drawn with a catheter. A gentle douche of tepid water once a day, and a light diet, is about all that is required. I seldom fasten the legs together, and aside from the patient being instructed to be careful in all her movements, little restriction is placed upon her.

*Removal of Sutures.*—I consider the removal of sutures to be one of the most important points in the entire management of the case. When to remove and when *not* to remove, is a nice point. I believe many cases have proven

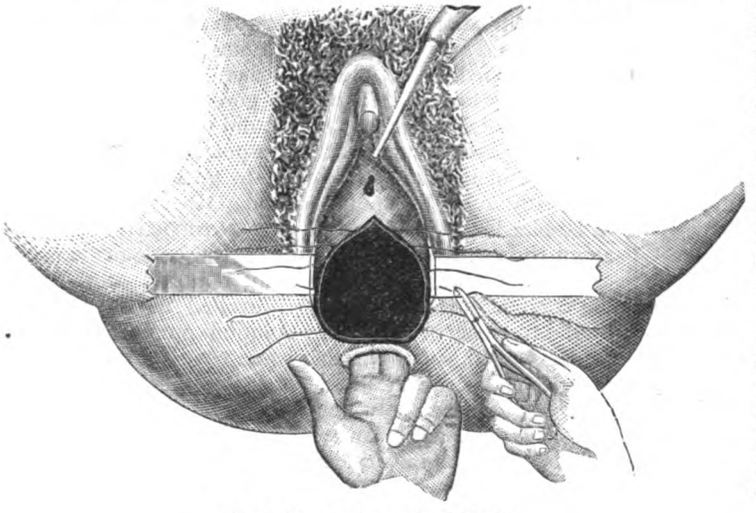

FIG. 3.—Manner of Suturing the Rectum.

failures that would otherwise have been perfectly successful, but for the fact that the sutures were removed too soon. There can be no fixed time or number of days given for the removal. Where union takes place with little or no pain, or where there is little or no inflammatory action, removal can take place several days earlier than when the opposite condition of affairs exists. I leave in my sutures from twelve to eighteen days, according to circumstances; preferring that considerable ulceration and cutting take place around the sutures than that they be taken out before strong adhesions have been formed. They can be left in four days too long much safer than taken out one day too soon.

*Method of Removal of Sutures.*—As will readily be seen, a row of sutures extend downward and backward in the vagina, and in some cases it is difficult to remove them without injury to the new perinæum. My method is as follows:

The patient is placed in the lithotomy position and an Allingham rectal speculum (see Fig 4) is introduced into the vagina with the fenestrated part directly over the row of sutures. The plug is withdrawn, when the sutures will readily be seen, and with a pair of locked handle dressing forceps, the ends are one by one seized and cut; the speculum removed, the perinæum not having been injured at all and the patient suffering no discomfort whatever.

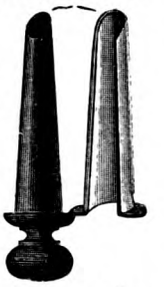

FIG. 4. — Allingham Rectal Speculum.

This method for the removal of sutures is, so far as I am aware, original with myself, and is in my opinion worthy of trial at the hands of men doing this work.

*Care of the Bowels.*—It is my custom to keep the bowels moving. I do this by means of a glycerine enema or suppository, and I find the patient suffers much less by having the bowels move on the second day after the operation, by the method herein described.

The results of my operations have been satisfactory, and I have seen my patients restored to health; and in closing will say, I do not think that I shall change to the flap-splitting method, neither do I consider the plan of "paring" as "most unscientific."

166 EUCLID AVENUE.

## SACCHARIN AS A MEANS OF ACIDIFYING THE URINE.[1]

BY ANDREW H. SMITH, M.D.,

NEW YORK.

WHILE it is usually not difficult to render an acid urine alkaline, our means for rendering an alkaline urine acid have heretofore been meagre and unsatisfactory. The mineral acids when taken into the stomach are chiefly eliminated by the intestinal mucous membrane, and the only way in which they affect the reaction of the urine is by liberating from their bases the organic acids which in the form of salts they may chance to meet in their passage through the system. The organic acids thus liberated may or may not find their way through the kidneys. As a matter of fact, they generally do not succeed in running the gauntlet. Indeed, so slight is their chance of doing so that in practice, in prescribing a salt of an organic acid, we leave the acid entirely out of consideration.

The only acid heretofore employed with any degree of confidence that it would get beyond the kidneys was benzoic acid. Even this does not reach the urine in its original form, but is converted into hippuric acid by the way. Nevertheless, it is in some degree useful in rendering the urine acid, but its action is not as certain nor as constant as might be desired.

When saccharin was first announced, it was mentioned among its properties that it was unaffected by the digestive fluids, and was eliminated unchanged in the urine. Some time later, having had occasion to manipulate somewhat with this substance, I was struck with its strongly acid property, and it occurred to me that so decided an acid, of such a stable composition as to resist decomposition in the system and electing the kidneys as its way of exit from the body, would supply exactly the agent required for acidifying the urine.

An opportunity to put this idea to the test was afforded by a patient in my wards at the Presbyterian Hospital. This was a boy suffering with transverse myelitis, whose urine, which required to be drawn with the catheter, was ammoniacal and very offensive. A few grains of saccharin administered three times a day promptly changed the reaction of the urine to acid, and did away completely with the offensive odor. Not only so, but the irritation of the bladder became less and the formation of pus was diminished.

Shortly after this I was in attendance upon a case of subacute meningitis in a child twenty months old. The

[1] Read before the Practitioners' Society of New York, November 1, 1889.

urine, which dribbled constantly into the diaper, was alkaline, and its odor, though not ammoniacal, was peculiarly sickening. Every effort was made in the way of cleanliness, but the atmosphere about the bed was extremely disagreeable. Small doses of saccharin were prescribed, and immediately removed the fetor, to the great relief of the parents and attendants.

On beginning my service at the hospital, on October 4th of this year, I found a young woman, aged eighteen, in the ward who was suffering from acute cystitis, apparently induced by suppression of the catamenia and the absence of an evacuation of the bowels for seven days.

She had then been ten days in hospital. On admission, three weeks after the onset of her illness, the urine was alkaline and contained a large amount of ropy mucus and pus. An attempt to wash out the bladder was abandoned, on account of the severe tenesmus excited. The contact of the catheter with the wall of the bladder caused hemorrhage.

Citrate of potassa was ordered, but gave no relief. When I came on duty I found the patient in so much distress that I suspected she had introduced some foreign body into the bladder. October 13th, finding the urine very alkaline, I directed the administration of five grains of saccharin three times a day. The following day the urine was neutral, and in four days more it was acid, and contained no mucus and but very little pus. October 23d, the urine was entirely normal, the symptoms had disappeared completely, and the patient was discharged cured.

It is probable that a part of the efficacy of saccharin in these cases is due to its being a powerful antiseptic in addition to its acid property.

## Clinical Department.

### AN EASY METHOD FOR THE REMOVAL OF PLASTER-OF-PARIS APPARATUS.

By CHARLES H. RICHARDSON, M.D.,

NEW YORK.

I HAVE used of late a plan in the removal of plaster and starch bandages which seems to do away with the annoyance to the surgeon, and the discomfort, not to say distress, to the patient, attending removal by the shears.

It consists simply in the application of a piece of wire under the bandage, which is made to out its way out when removal of the apparatus is desired.

The limb is prepared for the bandage in the usual manner, either by the application of a flannel roller or by being well anointed with vaseline. A fine steel wire is then laid the length of the limb, in the situation that it is desired subsequently to cut, and firmly held in that position by an assistant. This is secured by a few turns of the plaster bandage, and the apparatus finished in the ordinary way.

The wire should project four or five inches at each end of the bandage, so as to afford sufficient for a firm hold when the time comes for removal. These free ends of wire may be bent down after the casing is completed, to prevent the annoyance to the patient which the sharp ends might otherwise produce.

When the removal of the appliance is desired it is necessary to have the patient rest his limb on a table in order that it may be perfectly steady, and while the lower projecting end of wire is held firmly in place, to prevent its slipping underneath the bandage, the upper end is seized by a pair of pincers and by firm traction made to cut its way through the whole length of the casing. The apparatus may now be bent back and removed, the operation having caused no discomfort, which can hardly be said of the combined prying and cutting with a pair of plaster shears.

To two points would I like to call attention before I close. The first is that no attempt should be made to remove the casing until it is completely and entirely dry. The wire will not cut through wet bandage.

The second is, that while one wire will cut through the ordinary light dressing, such as is used on the arm, yet when an extra thickness is given to the apparatus, as in a plaster jacket or in an appliance to the lower limbs, I would recommend that two or even three wires be used, to make the cutting easier and more sure.

If more than one wire be used, the second is laid as nearly over the first as possible, after a few layers of bandage have been applied, and a third over this if it be deemed necessary. Thus a layer of plaster and bandage will intervene between each of the two or three wires.

The method of cutting is evident. It is done in sections, by pulling the wires in inverse order to that in which they were laid.

427 LEXINGTON AVENUE.

### LIGATION OF THE ANTERIOR TIBIAL ARTERY FOR TRAUMATIC ANEURISM.

By J. R. WILKINSON, M.D.,

GREENVILLE, S. C.

MR. P. M. B. D——, aged thirty-eight, a shoemaker; has been strong and healthy all his life, but has been drunk, with but few intervals, for the last twelve years. About October 1, 1887, while drunk, he picked up a scythe-blade, and accidentally thrust the point into his left leg, at about the juncture of the upper and middle third of the tibia, about an inch to the outer side of the spine. This was followed by considerable bleeding.

He stopped me on the street the following day for advice, upon which I told him to go home and lie down, keeping his leg elevated. But he did not do so, and I declined to assume any further responsibility in the case. On November 6th I was sent for in great haste, just as I was ready to go to Sunday-school. Mr. D—— was said to be bleeding to death, and when I reached him he was about to faint from loss of blood. I at once made pressure on the femoral artery, but not realizing at the time the conditions that existed, I controlled the hemorrhage by the free use of Moonsil's solution on cotton to the gaping wound, supposing that some vessel of medium size had sloughed. One week later the third hemorrhage came on, and was controlled as before. He lost not more than half the usual quantity of blood.

I then saw him every day, when on the 22d the fourth hemorrhage came on, and was controlled as previously. At this time a pulsating tumor of considerable size had developed, and there was a well-marked bruit.

After careful examination I decided that an operation was necessary, and on November 23d invited Drs. Wallace and Bailey to assist me. Against the opinion of these gentlemen, I decided to make an effort to save the leg. I made a long incision, about five inches in length, directly over the tumor, through integument and superficial fascia, which opened into a mass of coagulated blood and pus.

Many of the muscles of the calf were dissected apart, this same mass being packed in between them, requiring much time for its removal. A quart would, I think, be a low estimate of the amount of this material. The tumor, upon examination, proved to be an aneurism of the anterior tibial artery, about two and a half inches long, with a diameter of about one inch. (I say *about*, because my office-boy threw it out of the basin before I had made actual measurement.)

I removed the tumor after ligating the anterior tibial artery, about one inch above and below it, with carbolized catgut. The wound was thoroughly cleansed with hot carbolized water, dusted with iodoform, and wrapped in a thick cotton dressing.

November 24th.—Patient did well, except that there

was some suppuration, until November 28th, on which day a secondary hemorrhage occurred.

When I reached the patient he was almost exhausted, and seemed on the verge of going off in a swoon from loss of blood. Hemorrhage was controlled as on previous occasions until I could get a bandage and compress and assistants, which took some time, as it was late on Sunday afternoon.

The patient being anæsthetized, the whole wound was laid open and cleansed with carbolized water (1–40), after which it was thoroughly sponged out with spirits of turpentine. The artery was found to have sloughed at point ligatured.

Believing that my mistake lay in the fact that I had ligated the vessel in an open suppurating wound, I cut down on it through fresh tissue about one inch from where it emerges from the interosseous space, placed a silk ligature around it, and sponged out the freshly made wound with spirits of turpentine, with which I had previously washed my hands. I then brought the parts together and held them by deep silver sutures.

The patient now did well until December 31st, when it was found that a large pocket had formed in the calf of the leg where the muscles had been dissected up prior to the first operation.

I made an incision four inches in length, opening up the pocket, which proved very effectual in reducing local irritation, also general œdema of the whole leg and foot.

January 13, 1889. I put the patient on chloride of gold and sodium, gr. $\frac{1}{15}$, t.i.d., hoping by its effect to destroy the desire for whiskey.

February 9th.—Walked out on street to-day. Leg and foot still somewhat œdematous. Collateral circulation going on well and gradually improving.

September 26th.—At this time the patient is still following his trade. Has good use of the whole leg. Collateral circulation is well established, and he has no trouble whatever. I advised him to wear constantly a leathern fender as a protection to his shin, telling him that any scratch would be hard to heal. He did not, however, believe me until I had to keep him in bed for a week or two on account of a slight bruise which made an ugly ulcer.

The points in the case which I would call special attention to are:

1. The external coats of the anterior tibial must have been incised at the time of injury, leaving the inner ones intact.

2. The several hemorrhages and infiltration of surrounding tissues to such an extent *after* dilatation of the walls of the vessel.

3. The mistake made in ligating an important vessel in an open suppurating wound.

4. The use of spirits of turpentine as a styptic and disinfectant.

5. Thorough irrigation in such cases twice daily with hot carbolized water.

## A LOST DRAINAGE-TUBE.

Dr. DeWitt Hitchcock, of Long Island City, writes: "Since it is by recording the unfortunate errors in the treatment of cases that we are cautioned and put on our guard in the management of future similar ones, I relate the history of a very interesting case which occurred in my practice recently. On December 15, 1877, Edward Fay, aged six years, Long Island City, was seized with pleuro-pneumonia. The family physician was summoned, but the disease was severe in its attack, and, in spite of good care and treatment, left the little patient with empyema.

"On February 19, 1888, I was called in consultation, and for the purpose of aspirating if I concurred in diagnosis. I found the patient anæmic, elevated temperature, rapid pulse and respiration, profuse perspiration, together with all the physical signs of empyema. I aspirated and drew off thirty-two ounces of purulent matter, and recommended free incision. I left the case in charge of the family's physicians, and a few days later they made a free opening into the pleural cavity, through the left seventh intercostal space, posteriorly, and introduced an ordinary No. 12 rubber catheter for drainage-tube. On the afternoon of the same day the wound was dressed by the attending physician, and the mother, as well as the physician, noticed that the catheter seemed a little shorter than when introduced, but they thought that probably if any was gone it had been burned with the oakum dressing. Drainage was kept up about three weeks, when the tube was left out and the wound closed up. But the patient's condition grew rapidly worse; about eighteen days later they opened the cavity in the same place, and a profuse discharge of pus followed. At this time, fearful that a small piece of the catheter was lost in the pleural cavity, search was made, but availed nothing. Drainage was kept up until the following November, when it was discontinued and the wound again allowed to heal. On Christmas-day following (December 25, 1888) it opened of its own accord and discharged freely. A drainage-tube was again inserted, and continued up to October 8, 1889, when he was brought to my office and examined by Dr. G. B. Strong and myself. The little fellow was very distrustful, and had lost all confidence in physicians and the 'healing art,' so much so that we could only get the history as related above, and note his general condition. He was in very delicate health; emaciated; poor appetite; weak, rapid pulse; slightly elevated temperature; night-sweats; more or less swelling of the feet (but no albuminuria), and a troublesome cough. We concluded that there either was necrosis of the rib, or else some part of the old tube remained to keep up irritation and the continual discharge. We recommended an operation as soon as his health could be a little improved, and after a course of tonic treatment we operated October 19, 1889. The patient was etherized, and an incision made to examine the rib. Finding no sign of dead bone, the incision was enlarged into the pleural cavity sufficient to admit the index finger, and thorough exploration made. After searching in every direction, and passing the finger to the extreme lower part of the pleural cavity, we thought we could detect a foreign substance, and with the dressing-forceps, but not without considerable force to loosen it from its partial impaction, we removed five and three-eighths inches of the lower end of the catheter introduced March 19, 1887, for the purpose of drainage. The wound was dressed with antiseptic precautions, and at the present writing he is improving rapidly, with good prospects of a speedy and permanent recovery."

## CEPHALIC VERSION EIGHTEEN HOURS AFTER RUPTURE OF THE MEMBRANES.

Dr. W. Clayton Dukes, of Memphis, Tenn., reports the following case: "When the patient was seen for the first time it was about sixteen hours after the membranes had ruptured. Upon examination I found an entire prolapse of the left arm, the shoulder was firmly engaged between the pelvic bones, the head was forced backward over the left scapula, the face looking to the right and approximating a line drawn horizontally across the pelvis. Violent contractions, tonic in character, were present from the administration of a dose or two of ergot given by a woman in attendance. The uterus was firmly retracted upon the child, and the pains were frequent and expulsive. The patient was thoroughly anæsthetized, and the child's forearm was flexed upon the arm, which was used as a fulcrum and pressed backward and upward as gently as possible until it was returned into the vagina, when it was rotated and passed gently backward underneath the child and to its normal position at the side. After this three

fingers of the right hand were placed above the head of the child and pressed gently downward, the thumb resting upon the left shoulder and pressing backward. The head was gently rotated and brought into the position of a normal labor, and the child was born on the following morning, about three o'clock, after one or two expulsive pains. The tonic contraction of the uterus made this an extremely difficult manipulation, but as the feet could not be reached there was nothing else to do. In this case I received most invaluable assistance from my friend, Dr. W. B. Winkler, and take this occasion to express my grateful thanks."

## Progress of Medical Science.

AUTO-INFECTION IN PUERPERAL CASES.—At the last meeting of the German Society for Gynecology, Kaltenbach expressed his belief that while in the great majority of cases infection comes from without, yet the innocuous bacteria found in the vagina may invade the uterus and become pathogenic, especially if the tissues be mechanically injured or destroyed during labor, and absorption of the products of retrograde metamorphosis follows (*The American Journal of the Medical Sciences*, October, 1889). The attempt to sterilize the genital tract is unnecessary and meddlesome, but a vaginal douche of bichloride of mercury, 1 to 3,000, had done him good service, and is used to advantage in protracted cases. The necessity for intra-uterine douches becomes very infrequent when prophylactic douches are given. Fehling considered many cases of fever in puerperal patients, examples of the absorption fever common in surgical patients, in whom absorption of disintegrating albuminoids, with or without germs, was not rare. In the presence of an abundance of such matter, harmless germs often become virulent. He lays most stress on disinfecting the external parts; the vagina is irrigated only when foul lochia are present. Should the placenta or chorion be retained, interference is demanded. In all labors care is taken that the membranes do not rupture too soon; that perineal tears are avoided by episiotomy; and that the forceps is used before the tissues have been injured by pressure.

IMMUNITY AND IMMUNIZATION.—Dr. H. Buchner has recently published a new study of this subject, and *The Sanitarian* gives the following *résumé* of it: Immunity in its full meaning signifies a condition of the body which permanently opposes the development of infectious processes. But there are conditions which act transiently in the same way against the danger of infection already existing. Buchner exemplifies this by a person attacked with typhus. In this case the disease, the continuous multiplication of bacilli, is not terminated before all tissues acquire transient immunity against the fungi. But what are the means by which the organism acquires immunity in a permanent or transitory way? To answer this question Buchner first refers to Pasteur's protective inoculation, the actual efficiency of which is generally admitted at the present time. Buchner calls it a great triumph that it should be possible to immunize a living organism in this way without hurting its tissues. Again, another means of immunization comes from France. Chamberland and Roux have injected intra-peritoneally the chemical substances of bacteria (ptomainia) in experiments on animals affected with malign œdema and with anthrax, without taking the bacteria themselves. The animals were actually rendered resistant to inoculation with living bacilli of the corresponding disease. This discovery is practically very important, inasmuch as the effects of chemical agents for the purpose of immunization are certainly more accurately measurable than those of living fungi. Theoretically, the discoverers neglected drawing the necessary consequences from their results, and this has been done by Buchner with zealous energy. He prefaces his developments with a discussion of the means by which transitory immunity may be obtained. It might be possible to neutralize specific ptomaïnes in the organism by means of certain substances, just as Behring succeeded in decomposing the ptomaïne of cholera-vibrios, cadaverne, by means of iodoform. Nature uses inflammation as an antidote against the invasion of fungi. Ten years ago Buchner pointed to this reaction of the organism by which it acquires transient immunity, but at the present day he disposes of proofs for his hypothesis. In a former paper, Buchner has described anthracic pneumonia produced by the inhalation of anthrax bacilli. Its symptoms are those of a sero-fibrinous hemorrhagic pneumonia. In the alveoli there is found an exudation abounding in cellules and an immense quantity of anthrax bacilli. On the other hand, the pulmonary capillaries and the larger vessels were absolutely devoid of bacilli, the spleen containing only a very few of them. For the purpose of investigating the modus by which the agents of infection are arrested in their further invasion, Buchner has lately instituted some experiments which led to the conclusion that "inflammatory reaction not only possesses the power of arresting the passage of bacteria through the pulmonary surface, but actually to cause degeneration of the infectious bacteria, and consequent destruction." We are not permitted here to give in detail the interesting experiments which Buchner, jointly with Dr. Schickhardt, has performed on animals infected with anthrax bacilli. The microscopical result confirmed Buchner's hypothesis that inflammation originates in consequence of the bacillus, but that conversely, once originated, it induces degeneration in the bacillus, and may doubtless cause its complete decay. The latter hypothesis is corroborated by the shapeless agglomerations of granules which are found, and which represent a transformation of the bacilli. In accordance with the fact of an antibacterial, immunizing action of inflammation, Ribbert and Lahr have ascertained, after injecting staphylococcus avoreus into the trachea, that the local inflammation prevents the bacteria from penetrating into the organism, and subsequently causes them to degenerate and to die. Emmerich, and similarly Paulowski, have tried already to utilize these experiences in a practical way, the former by his experiments with injection of erysipelas-cocci in animals affected with anthrax; the latter by establishing the fact that even simple saprophytic fungi have a restraining curative influence on simultaneous anthracic infection. It may be possible in some other way, as tried already by Landerer by means of Peruvian balsam, to create in the organism a condition of excitation which might be used as a means of immunization. Through what kind of chemical and microscopical conditions an inflammatory excitation, or immunity acquired by protective inoculation, may act deleteriously on the bearers of infection is explained on the results of Metschnikoff's well-known phagocytic theory. In Buchner's opinion this theory constitutes one of the greatest additions to our morphological and physiological science of infectious processes. Metschnikoff's doctrine, opposed from many sides, draws its principal importance from the fact of having demonstrated that viable, pathogenic bacteria may indeed be devoured by cellular elements. It explains how leucocystic and other cellular elements migrate into certain tissues in a condition of inflammatory excitation and exposed to infection, there display their phagocytic action. It is true, Buchner does not consider everything explained by this process alone. On the contrary, a certain chemical reaction and concentration of the different tissue-fluids seems to be necessary for the debilitation and destruction of the fungi. Buchner, on the ground of experiment, is inclined to suppose the existence of fluid substances which, formed by the febrile process, have an antibacterial action. This explanation being quite satisfactory for transient immunity, there are other processes to be considered in permanent immunity. Voit's experiments in Buchner's laboratory have recently furnished the proof that the organism possesses in the living blood-plasma chemical properties of

this kind, deleterious for bacteria. Living blood, generally, is an unfit alimentary substratum, but by a change of its quality it may become a proper medium, and in this case a morbid affection of the organism would take place; the period of incubation would then be the time in which the blood is still possessed of those properties which arrest the bacteria in their growth or, possibly, even destroy them. Immunity, then, would represent a permanent power of the organism to maintain the period of incubation. The question, in what way transition to actual morbidity is prevented, is answered by Buchner, availing himself of the experimental results obtained by Chamberland and Roux, by the suggestion that it is the adaptation of the organism to the specific virus which makes the latter gradually lose its pathogenic properties. This very supposition of adaptation underlies protective inoculation with attenuated specific fungi, as well as with dissolved specific products of decomposition.

Suppuration without Microbes.—In a paper read before the French Association for the Advancement of Sciences, M. Steinhaus, of Varsovia, combats the notion which has of late been gaining a strong hold of the professional mind, that without microbes there can be no suppuration. He cites the experiments of Straus, of Bary and Christmas (among others), as giving results entirely contradictory to the doctrine that suppuration is absolutely dependent on microbes. He has himself made two hundred and forty-five experiments on dogs, cats, guinea-pigs, and hares. As pyogenic agents, he has employed chloride of zinc, chloride of mercury, pure mercury, nitrate of silver, oil of turpentine, croton-oil, and culture broths, which had contained the staphylococcus pyogenes. All these substances were injected under the skin of animals, after having previously been sterilized in Koch's apparatus. The results were as follows: In the guinea-pigs and hares, only the chloride of mercury, mercury, and the sterilized broths produced suppuration, while in the cats and dogs, besides these substances, oil of turpentine, petroleum, and nitrate of silver produced it as well. These results compelled the conclusion that suppuration may be provoked by sterilized chemical bodies, and that it is possible without microbes.—*The Boston Medical and Surgical Journal.*

A New Turpentine Eruption.—Dr. Feiber, of Aix-la-Chapelle, furnishes a clinical example of the rare condition of an œdematous and papular erythema following the internal administration of a turpentine preparation. The patient was under treatment for subacute gonorrhœa, and was taking eight grains of the essence of turpentine twice daily. On the ninth day of the treatment, that is, after the use of about seventy grains of the turpentine preparation, the patient complained of severe pruritus. On the following day an erythema, consisting of small, acutely pointed papules of a bright red color, some of which were excoriated by scratching, was found to cover all the surface of the body excepting the head and face, being more pronounced on the lower than on the upper limbs, and specially intensified on the abdomen and buttocks. The pruritus and rash disappeared in three days on the cessation of the turpentine preparation. Being desirous of ascertaining if the turpentine would again produce the erythema, Dr. Feiber again prescribed it. On the fourth day violent itching returned, accompanied by an eruption of similar papules; but in addition to these there were noticed on the abdomen and buttocks small red, slightly raised spots, with patches about the size of a half-dollar of the same bright red color, both in their centres and in their peripheries. The urine was normal, and the patient felt well. Dr. Feiber remarks that, whereas the first eruption was exclusively a pure papular erythema—roseola—the second, on the contrary, was a mixed form of œdematous and papular erythema, an eruption described now, as far as he knows, for the first time as consequent on the administration of turpentine.—*The British Journal of Dermatology.*

Vertebral Pain: A New Form of Gastralgia.—Dr. Buch, of Finland, in a paper on this subject, states that he has recently discovered that, in the great majority of cases of so-called cardialgia or gastralgia, pain, similar to that of the attacks, can be elicited by pressure on the vertebral column, through the abdominal parietes, while abdominal pressure elsewhere is painless. The sensitiveness to pressure sometimes extends the whole length of the accessible portion of the vertebræ, in which case some portions are usually more tender than others, or it may be confined to certain spots, which are not always in the immediate neighborhood of the apparent seat of the pain. Thus he found that pain in the epigastrium and lower sternal region was most frequently produced by pressure about an inch below the umbilicus. It is often associated with dyspeptic symptoms, and sometimes with painful pulsation of the abdominal aorta. He considers the affection to be generally due to neurasthenia, sometimes to chlorosis and uterine inflammations. Anatomically, he believes the seat of the pain to be in the hypogastric and aortic plexuses of the sympathetic with their connecting branches. As a palliative for the attacks he has found most benefit from hypodermic administration of antipyrin. The cure, of course, must depend on treatment of the fundamental affection.—*American Journal of Insanity*, October, 1889.

The Physiological Resistance of the Peritoneum to Infection.—In the past year hardly a more interesting series of experiments has been made in the interest of surgical pathology than those of Rinne (*Archiv für klinische Chirurgie*). Practically and clinically it has been demonstrated that the peritoneal cavity under certain unknown circumstances has the power of taking care of a vast amount of filth. It remained for Rinne to harmonize observed clinical facts with *a priori* deductions. He found that large quantities of septic material and pure cultures of pyogenic bacteria were absorbed, although injected daily into the peritoneal cavity of animals, provided that the peritoneal surfaces were uninjured. The injections produced only mild symptoms in direct proportion to the quantity of septic material used, and in no case was there more than a moderate rise of temperature. The results were very different when there were coincident defects in the peritoneum, exposing the subperitoneal connective tissue to infection. Then there invariably appeared progressive suppurative peritonitis going out from the infected connective tissue, which usually terminated fatally. The practical import of these experiments can hardly be overestimated. They explain why the escape of pus into the peritoneal cavity from the rupture of a pyosalpinx is not necessarily fatal if the tube is promptly extirpated, and the wound and stump properly treated. They point out that the incision is the point of greatest danger in all abdominal operations, and they would indicate that too much care cannot be taken in coaptating the peritoneal edges of the wound. They explain why the removal of abdominal tumors is so much more dangerous after adhesions have taken place, because the resulting denuded places offer less resistance to the invasion of septic bacteria. They explain the success of those operators who disregard the dictations of scientific bacteriology, and also the recovery of patients after abdominal section by horned animals. They teach us to consider cautiously the evidence presented by the statistics of operators, and await the demonstration of more exact methods as to the import of their results. They warn us that clinical evidence is inadequate to overthrow the deductions of experimental physiology and pathology, and that our time is provided with methods of precision which are yet imperfectly improved. They beckon the ambitious into fields of activity and thought far less crowded, though more promising than the operating room and the dead-house. The resisting and absorptive power of the peritoneum is beyond that of any other serous cavity. This is as we should expect. The peritoneal surfaces are only a line

distant from the most filthy and prolific culture-medium about the body. It is connected with this seething and turbulent mass by the most active absorbent lymph-channels. Doubtless it is frequently invaded by septic bacteria from the intestinal contents. From these frequent invasions an immunity has been developed which has been perpetuated and transmitted by the working of the ordinarily recognized laws of evolution. Again, we are taught to consider the causes which determine the localization of infection as more important than the quantity and quality of infective material. Doubtless traumatism is one of the most important of these causes, but we must not forget that the depression of the general temperature of the body, the interference with nutrition, and general *malaise*, frequently observed after operations, are factors which may speak for the life or death of our patient. Not only should the abdominal section be made with the greatest attention to cleanliness, but the peritoneal edges must be accurately coaptated, the operation must be done with the greatest celerity and delicacy, and depressing influences of starvation, over-medication, and deprivations of every kind must be avoided if we would eliminate all those causes which determine the localization of that infection, which is still the greatest danger the operator has to meet.—*The Journal of the American Medical Association*, October 12, 1889.

The Symptomatic Indication and Therapy of Residual Urine.—According to Dr. Casper, under the term residual urine we understand that portion of the urine which, after urinating, remains behind in the bladder. The healthy man has no residual urine—that is to say, he empties his bladder at each act with the exception of a few drops. We possess in the residual urine a measure to indicate the functional condition of the bladder. The lack of functional capacity can be caused by a variety of circumstances—defect of innervation of the bladder, embarrassed or obstructed flow of urine. Furthermore, degenerative or functional change in the muscles of the bladder may cause a lessening of the contractility of the vesical detrusor (atony of the bladder). Persistent abnormal frequency of urination always leads to the presumption of residual urine being present. The quantity of urine voided shows only the power of secretion on the part of the kidneys and not the expulsive power of the bladder. Involuntary flow of urine almost always indicates an excessive collection of residual urine, a retention of urine, but not incontinence. It is doubtless true that in certain cases of chronic retention catheterization is absolutely to be warned against, but the author endeavors to free it from the suspicion of causing in many cases severe cystitis and even the death of the patient. The cystitis is caused in these cases by the introduction of infectious material, while the sudden death is due to the operation having been put off too long. The catheter should be thoroughly cleansed and disinfected and introduced with the utmost care. Soft instruments are preferred. For anointing the instrument, equal parts of lanolin and vaseline well rubbed up together are recommended.—*Med. chirurg. Rundschau*, August, 1889; *Journal of Cutaneous and Genito-Urinary Diseases*, October, 1889.

Abnormal or Contrary Effects of Antipyretics.—Professor Heuchen, of Upsala, has frequently observed in the academical hospital the so called contrary effects of antipyretics, mostly of chinolin, but also of antipyrin, antifebrin, and phenacetin (*The Lancet*). He believes the increase of temperature on administering these drugs to be due to a variety of causes. In some of his observations there might have been a spontaneous rise of temperature, while in others the symptom is explained as being due to an irritation communicated from certain parts of the body. Professor Heuchen mentions several cases in which the administration of chinolin resulted in vomiting or diarrhœa. In these, however, the doses had been large enough to be considered toxic. A similar explanation is suggested of a case mentioned by Laache, in which an extensive rash was produced, the temperature sank, and the patient became collapsed. A rash was observed by Heuchen only in cases in which chinolin had no abnormal action on the temperature. The best explanation of this singular occurrence is, however, probably to be found in the observation of Giegel of Wurzburg, who states that on administering antipyrin or antifebrin the temperature always first rises and then rapidly falls upon the appearance of diaphoresis. He thinks that in those cases in which the diaphoresis is slow in appearing the rise in temperature has probably also lasted longer, so that this contrary effect is due solely to the absence of diaphoresis.

A New Cardiac Remedy.—The alkaloid discovered in the common gorse, "whin," or furze, of Europe (*Ulex Europæa*), termed ulexine, is of a most powerful character. It appears to arrest all voluntary movements and reflexes by paralyzing the motor tract of the spinal cord and the trunks of the motor nerves. The heart-muscle is paralyzed, though preliminary thereto there is an increase of arterial pressure. Further, it possesses a diuretic action similar to that of caffeine, but more definitely marked.—*The Medical Age.*

Clinical Significance of Albuminuria.—In the course of an article on this question the *Lancet* says: "It seems to us that rather too much has been made of those cases of albuminuria appearing under forced and unnatural conditions in health. Extreme physical fatigue, intense mental excitement, and some other causes, have been shown to be capable of producing temporary albuminuria, and this fact has been much relied upon by those who advocate what may be regarded as the newer views upon the subject. It is doubtful, however, if we are justified in drawing any definite conclusions from symptoms appearing under conditions entirely without analogy to those usually prevailing. A person ascends an Alpine peak, and has an attack of hæmoptysis. This only proves, what no one ever doubted, that a sudden and extreme alteration in the conditions of blood-pressure may cause hemorrhage, but it helps us little, if at all, to determine when hæmoptysis occurring under normal conditions is due to organic disease, and when it is independent of such. A parallel reasoning may possibly apply to those cases of albuminuria occurring under peculiar and highly abnormal conditions. The fact is interesting and worthy of careful note, but we must be very chary of reasoning confidently from it. The abstruseness of the subject is shown by the fact that even the presence of casts, so long relied upon as absolutely diagnostic of organic disease, does not justify any final conclusion. Their presence is very noteworthy. If they are numerous and constant the probability of Bright's disease becomes almost a certainty. Their character is capable of affording important guidance. But the remarks already made upon albumin apply almost without alteration to casts—viz., that while their presence is highly significant, we must note that presence as only a most important element in our diagnosis, and not as conclusively determining the whole question. Cyclic albuminuria, or cases in which albumen appears in considerable quantities at intervals, the urine being free from it in the interim, has attracted much attention since it was first described by Dr. Pavy. It would appear, as might almost have been conjectured, that such cases are somewhat favorable relatively, and perhaps approach nearest to meriting the designation of "functional." This term reminds us how much this question has been one of nomenclature. Whether "physiological" albuminuria is a justifiable expression has been hotly debated, and it has been argued with much force that we might as well talk of physiological epistaxis or physiological hæmoptysis because bleeding from the throat and lungs may occur under abnormal conditions in health. The correctness of the analogy may be contested, but probably Dr. Gairdner is right in preferring the expression "functional" albuminuria. This, we presume, involves no hypothesis be-

yond the assumption that albuminuria occurs apart from discernible organic disease, and that this occurrence must be due to some aberration of function. These assumptions are hardly any longer contested. We may sum up the present state of medical opinion on this most difficult question by saying that the persistent presence of albumin in the urine is a most grave symptom, and in the great majority of cases is indicative of organic renal disease; that, nevertheless, this rule has some rare exceptions; that we are only very slowly seeing our way to the detection of these exceptions, but that we may best hope to avoid error by invariably taking a comprehensive view of each case, by allowing each symptom its due weight and avoiding the drawing of conclusions from one symptom only, by postponing any important decision until time may have helped to the clearing up of difficulties, and by deriving all the help we can from considerations of history and etiology.

Fatal Result of a Wasp-Sting.—A farm-laborer, aged twenty-eight, was stung on the right side of the neck by a wasp, on August 29th last. He took no notice of it; but the next day, late in the evening, both sides of his neck began to swell, and on Saturday, the 31st, things looked so serious that a physician was sent for. He found the neck, cheeks, lower jaw, and even the pectoral muscles attacked with acute cellulitis. Careful inquiry elicited the fact of the wasp-sting, and that when he received the lesion he had a boil under his left ear; also that, though a very healthy-looking and well-nourished man, he was sadly troubled with constipation, and a member of a family among whom boils and abscesses were very common—thus evidently showing a natural tendency to suppurative mischief. The treatment consisted of the use of antiseptics, both internally and externally, hot poultices, milk *ad libitum*, stimulants as far as could be tolerated, and plenty of fresh air; but, in spite of all, septicæmia, with violent rigors and delirium, supervened on the sixth day, and he died on the ninth day after the reception of the sting. No abscess formed, but the cervical tissues were very much indurated. August 29th was a very hot day, and, following as it did a period of rainy weather, the conditions were very favorable to the rapid decomposition of dead organic matter, whether animal or vegetable, and it is highly probable the wasp may have been feeding on some putrescent material previous to stinging the unfortunate man. As he had nothing whatever to do with the cattle, and as all the horses and cattle on the farm where he was employed are quite healthy, it is clear this was not a case of anthrax or malignant pustule, but death due to a wasp-sting received when the system was not healthy.—*British Medical Journal.*

French Views on the Electrical Treatment of Uterine Fibroids.—A long discussion has lately taken place at the Société de Chirurgie on the electrical treatment of uterine fibromata compared with the other methods (*The Boston Medical and Surgical Journal*, October 10, 1889). The debate was introduced by Dr. Lucas-Championnière, who read a note giving the results obtained by him, conjointly with Dr. Léon Danion, a well-known electrician in his service at the Hôpital Saint Louis. If there still remains a good deal to study on this subject; if there are other indications to be investigated; if it is true, in fine, that surgery can alone pretend to the radical cure of uterine fibromata—the conclusions of Dr. Lucas-Championnière are not the less very favorable to the treatment which he classes, without hesitation, in the first rank among the medical means employed in the treatment of this class of affections. This communication provoked a discussion in which several members of the society took part—among them may be named Drs. Bouilly, Schwartz, Kirmisson, Segond, Trélat, Le Dentu, Berger, and Tillaux, all well-known surgeons, who have supported, and some of them have even accentuated, the conclusions of Dr. Lucas-Championnière. Others, a few in number, with Drs. Terillon, Polaillon, and Terrier, expressed themselves as little or not at all favorable to this mode of intervention. That which gives a great value to the judgment of the principal members of the Société de Chirurgie is, that nearly all of them are distinguished laparotomists, and that the surgical successes of Dr. Lucas-Championnière in particular are most remarkable. Another circumstance which gives to this communication a still more interesting character, is the fact that Dr. Léon Danion, who for several years has endeavored to examine thoroughly this question of electro-therapy, has modified profoundly, in basing his investigations on physical and physiological grounds, the ordinary procedure adopted by others. He acted, nearly always, simply in the cavity of the uterine neck, and only utilizing intensities never exceeding sixty or sixty-five milliampères. He has, therefore, suppressed the higher intensities and the intra-uterine action; but he practises the reversing of the current, which appears to give to the treatment a considerable activity, as testified by the history of eleven patients whom he had treated in the wards of the eminent surgeon of the Hôpital Saint Louis, besides a number of cases treated by himself in private practice, and all of whom, with only one exception, whose case was complicated with rectal hemorrhages, have rapidly derived the most complete benefit which the treatment has till now given. Dr. Lucas-Championnière concluded his paper by recalling that he did not mean to attribute to the electric treatment of uterine fibromata and other uterine affections a primordial importance; but he wished to impress upon his hearers that, in the cases where the surgical treatment is not justified, it is the best of palliatives, and it succeeds particularly at the period of the menopause. He believes it to be not only unnecessary but positively dangerous to employ high intensities; one succeeds as well with the lower intensities, and there is no inconvenience to be dreaded. He himself never employs an intensity exceeding ninety milliampères. Moreover, he remarks that Dr. Apostoli believes the intra-uterine action indispensable, and thrusts the electrode into the uterine tissue when he cannot introduce it into the uterine cavity—a most condemnable practice. Dr. Lucas-Championnière believes that, in this latter case, one should be contented to apply it to the uterine neck. Finally, he reminded the meeting that Dr. Danion attaches a great importance to the reversing of the current; and he believes it to be advantageous to practise the operation with the speculum, after having thoroughly cleaned out the vaginal cavity.

Theophyllin—A New Constituent of Tea.—This new base, obtained from the alcoholic extract of tea, agrees in its elementary composition, $C_7H_8N_4O_2$, with that of theobromin and paraxanthin, but differs from both of these substances in its melting-point, mode of crystallization, and behavior with caustic soda. It gives no xanthin reaction, but on evaporation with chlorine-water leaves a scarlet red residue, which turns violet with ammonia, and is decolorized by excess of caustic soda. This body is described by Dr. Kossel, who discovered it as a dimethylxanthin.—*Therapeutic Gazette.*

To Cure a Black Eye.—There is nothing to compare with the tincture or a strong infusion of capsicum annuum mixed with an equal bulk of mucilage of gum arabic, and with the addition of a few drops of glycerin. This should be painted all over the surface with a camel's-hair pencil and allowed to dry on, a second or third coating being applied as soon as the first is dry. If done as soon as the injury is inflicted, this treatment will invariably prevent the blackening of the bruised tissue. The same remedy has no equal in rheumatic stiff neck.—*St. Louis Polyclinic.*

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San Francisco has a Chinese physician, Li Po Tai, whose professional income is stated to be $6,000 per month. He has been established in that city for thirty years.

THE MEDICAL RECORD:

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## INFECTION BY PHYSICIANS.

IN the *Centralblatt für Chirurgie* for September 28, 1889, Professor A. Neisser, of Breslau, discusses the question whether the physician who has been infected with syphilis should on that account limit his surgical and obstetrical activity. He cites the cases of four of his assistants who had acquired a finger-infection, and states that Fritsch had had eight assistants and six midwives similarly infected, all of whom continued their work. Other illustrations of infected persons and of transmission of syphilis by them are referred to.

Professor Neisser concludes that it is in the first two or three years of the disease only that there is any danger, and he believes that this danger is much lessened by active treatment.

He warns especially against the infected person doing obstetrical or surgical work with the specific eruption on his hands. A syphilitic person, also, who has a non-luetic eruption on the hand, should be extremely careful; furthermore, Neisser inclines to the belief that in the first year or two of syphilis the blood is infective, and that an accidental cut of the surgeon's hand would be dangerous.

However, with suitable precautions, the physician or surgeon who is infected can safely carry on his practice, and need hardly limit his work. The infected midwife is a much more dangerous person, for she usually has not the intelligence or honesty to recognize an affection if she have one.

A much more serious source of danger, in obstetrical practice particularly, is a puerperal fever of severe type. *The Northwestern Lancet* recently, in discussing this subject, recalls the classical case of Dr. Rutter, of Philadelphia.

In the year 1843 he had forty-five cases of puerperal fever in his practice, and in the next year twenty-five, while the other physicians of Philadelphia saw little or nothing of the disease. No amount of bathing, change of clothing, even shaving the head, had any effect. At last, in desperation, he went away from the city for ten days, and when he approached his next patient wore entirely new clothing and a new wig, leaving even watch and pencil-case at home. Yet this patient, too, was infected in the same way and died. Thirty years afterward Dr. Rutter's frightful record was explained by the disclosure of the fact that he was suffering at the time from a mucopurulent nasal catarrh, probably an ozæna.

A writer in *The London Lancet* describes two cases coming to his knowledge where medical men infected their puerperal patients through septic discharges from their own persons. In one case the source of infection was a slight but offensive discharge from the middle ear, the sufferer from which had a large midwifery practice with a great deal of septicæmia.

The other case was one of interest in connection with Neisser's article to which we have referred. It was that of an assistant who went to attend a case of childbirth in the absence of his principal. The woman died of puerperal fever, and investigation showed that the assistant was afflicted with tertiary syphilis and had an ozæna.

Such cases show us that physicians cannot be too careful of their persons when attending obstetrical as well as surgical cases.

## THE PATHOLOGY OF SCANDALS.

THE unsavory enterprise of the modern newspaper is constantly bringing to public notice instances of the weakness and sinfulness of human nature. The clergy, as a body, receive perhaps more than their share of notoriety, for if any ordinary man lapses a little it is thought to be something reasonably to be expected. A clergyman, however, who appears to have wandered from righteousness is the subject of the biggest kind of head-lines. It has been often said, among physicians, that strong religious feeling is usually united with a good deal of erotic fervor. This is, however, only measurably true. Religion appeals to the emotions, and successful preachers must cultivate perhaps unduly the emotional side of their character. The sexual feeling rises with the common emotional tide, but it is much less dominant than among artistic professions, where pure æsthetics is made the chief end of life and moral restraints are only secondary. The libertinism of the votaries of art in its various phases is a thing about which there is not much dispute, and it is amusing to learn that a certain prominent actor keeps a scrap-book containing a record of all the clerical scandals published in the daily press.

The practice of medicine tends to promote intellectuality and mental equipoise, so that medical history is rarely stained with records of misapplied confidence or scandalous violations of decency. Yet no one better than the physician knows how erring is human nature, and how full of temptations is the lot of any man who gains any degree of popularity or prominence. There exist in society a considerable number of men whose chief object in life is the gratification of lust, and who spend much of their time simply in devising ways of satisfying passion.

Such characters as Smollett's Count Fathom exist plentifully to-day, though modern novelists hardly venture to depict creatures so loathsome. These men are generally originally depraved; and modern alienists would place many of them among the moral imbeciles or paranoiacs.

But there are, unhappily, women of the same type; perhaps not so vicious, but much more weak. Large cities contain many of them, and they develop among the religious congregations as well as in the audiences of theatres. When one of them is struck with an erotic passion for her favorite clergyman, or actor, there is trouble ahead; and if the man is indiscreet or has enemies watching, a scandal surely follows. One basis for

scandals is insanely erotic women, therefore, and not necessarily bad men.

In justly estimating the merits of those cases involving the character of men who have lived lives without reproach, the pathological element of nymphomania ought to be considered. In some other cases the scandal is but the evidence of an incipient insanity, as in the case of a prominent lawyer who, in the early stages of paresis, went about making improper proposals to several of his respectable lady acquaintances. Scandal may be a sign of disease as well as of vice.

## THE WAY TO EDUCATE MEDICAL STUDENTS.

The continuous agitation by medical journals of the subject of the faults of medical education in this country has begun to bear some fruit. It is among the most significant results that the public begins to show a little interest in the matter. The daily press often treats of medical education editorially, and critical reviews publish articles about it. The *North American Review* has recently contained an article entitled "The Open Door of Quackery," written by three physicians well known as educators, Drs. Austin Flint and Eggleston, and Professor Doremus. In this article some plain statements are made regarding the deficiencies of American medical colleges. Dr. Eggleston, for example, says—and with perfect truth—"that there are not a dozen American medical colleges out of the one hundred and seventeen that would be tolerated for a moment in any foreign country that pretends to be civilized."

When the public generally knows that the above statement is correct, more care will be taken in selecting the family physician; and after a time it will, we trust, come about that intelligent people will not patronize medical men who have not had a thorough educational training, any more than they would hire an engineer who had not been carefully prepared for his profession, to build a difficult railroad, or to bridge a dangerous pass.

The two chief deficiencies in medical colleges just now are lack of the requirement of a good preliminary education and lack of facilities for clinical teaching and for technical instruction in the special branches. The latter requisite is being supplied measurably by post-graduate schools, and by the multiplication of small hospitals. The question of preliminary education is, however, often a serious one.

The physician needs to be not only a medical man with technical skill, but a man of some general culture and worldly knowledge. These latter elements are almost as important as the former. The worst way to make a physician is to take a youth of sixteen, put him at once into exclusively scientific studies, follow these up with medicine in all its branches, hospitals, laboratories, clinics, until by the time he is twenty-three he is a monument of technical knowledge. Such a course makes good operators in certain kinds of work; it produces a narrow specialistic skill, but not good general practitioners.

Preparatory schools of medicine are, we sincerely believe, useless and pernicious institutions.

The best preliminary training is undoubtedly such as is now given in our smaller colleges, but so modified in the last two years that the graduate in arts can graduate in medicine after two years of study in a medical college having nine months terms. Then, with a year or two spent in hospitals or post-graduate courses, the student is ready to do good work in his professsion, and he need not be more than twenty-four or five years of age.

## PROCURSIVE EPILEPSY.

A good deal has been written lately, in German and especially in French journals, about a peculiar form of epilepsy which is termed "procursive." Drs. Bourneville and Bricon have studied the disorder with great care, and have published a large monograph upon it (*Arch. de Neurol.*, vols. xiii., xiv., and xv., 1887 to 1888). Drs. A. Mairet and Ladame have also reported cases.

Procursive epilepsy is a form of epilepsy in which the patient does not have the ordinary convulsive attack, but instead of it suddenly runs forward, or in a circle. The attacks are usually brief, they are not ordinarily followed by somnolence or coma, and the patient does not fall.

Procursive epilepsy has been described by the older writers as *Chorea procursiva, seu festinans, s. rotatoria*, Systematized impulses, etc. No doubt the disease has often been looked upon as a form of hysteria or chorea.

Besides the true and typical procursive epilepsy there are cases of ordinary epilepsy with a procursive aura, so to speak. The patient suddenly runs forward, then stops, utters a scream, and falls into a convulsion. In other cases the running or rotatory movements follow the convulsive attack.

The cases of epileptic automatism in which the patient, instead of having clonic and tonic spasms, goes through certain familiar automatic movements, are very properly considered as belonging to this category.

In several cases in which autopsies have been made by Bourneville and Bricon, upon patients who had procursive epilepsy, an atrophy, more or less marked, of one of the cerebellar hemispheres, was observed, and it is believed that the forced movements are due to some involvement of this part of the brain. A case of Mairet's tends to confirm this view.

Procursive epilepsy is usually associated with organic brain defects, and it is, therefore, a particularly serious form of disease. Its treatment does not differ from that of other forms of epilepsy.

## IMPERFECT INTESTINAL ABSORPTION AND ITS MANAGEMENT.

Among the most certain and satisfactory of chemico-physiological tests is that of the absorption-rate of the intestines. This test was first described by Professor Ewald, in 1887, when he detailed a number of experiments which showed that salol was insoluble in the gastric juice, but that it was decomposed into its two constituents, when, after passing into the small intestine, it was subjected to the action of the duodenal contents. Very shortly after absorption into the circulation it passes through the kidneys, and is eliminated in the urine as salicyluric acid and sulpho-carbolic acid, its presence being demonstrated by the production of a red-violet precipitate when the urine, after acidulation with hydrochloric acid and shaking with ether, is tested with a solution of perchloride of iron.

Tests made by Ewald in 39 cases showed the presence of the reaction in the urine—

| | | | |
|---|---|---|---|
| After 30 minutes in | | | 1 case. |
| " 45 " | " | | 32 cases. |
| " 60 " | " | | 6 " |

Dr. Eccles (*The Practitioner*, October, 1889), repeated Ewald's experiments on fifty patients, and detected the salol components in the urine.

| | | | |
|---|---|---|---|
| After 25 minutes in | | | 3 cases. |
| " 30 " | " | | 2 " |
| " 45 " | " | | 42 " |
| " 60 " | " | | 3 " |

Thus it may be considered established that the average time required for salol to pass into the duodenum, be decomposed and pass through the kidneys is forty-five minutes.

Now in muscular weakness of the stomach, and in disease of the intestines, this time is greatly delayed, and by studying cases with the help of the salol test, the rate of improvement and the efficacy of remedies may be estimated.

Dr. Eccles has attempted to measure the value of abdominal massage in conditions of impaired digestion and absorption by the salol test.

In two cases in which the reaction was not obtained until an hour after injection of ten grains of salol (the amount always used in the test), abdominal massage was performed once daily for fifteen minutes for a week with no result. General massage was then done daily for forty-five minutes, for a week, when the salol was detected within half an hour after its ingestion.

Two cases of tropical diarrhœa and two of dilatation of the stomach were treated by general and abdominal massage daily. In one case treatment had to be abandoned, but in the other the rate of absorption, or gastric movements, which had been been abnormally slow, was brought nearly to normal, with corresponding improvement in the condition of the patients.

It may be considered proven that by vigorous and persevering massage intestinal absorption and the peristaltic activity of the stomach are improved. Whether this mode of treatment has a special value and reaches cases which could not be helped by other means, remains to be established.

## THE INFLUENCE OF HEREDITY IN THE CAUSATION OF TUBERCULOSIS OF BONE.

It is a matter of common observation that patients suffering from tuberculosis of the bones and joints, as well as those with the pulmonary form of the disease, not infrequently give a history of tuberculous troubles in the immediate family, especially in one or the other parent.

Some observations recently published by Dr. Julius Dollinger, of Budapest, in the *Centralblatt für Chirurgie*, No. 35, 1889, tend to confirm the belief in an hereditary predisposition which the general experience of practitioners has established.

Dr. Dollinger found, upon making inquiry of the parents or guardians of the children brought to him on account of bone or joint tuberculosis, that in a large proportion of cases one or more of the immediate ancestors had suffered from pulmonary phthisis. Usually, however, it was not the parents alone who were the sufferers, but the grandparents also, and not infrequently only he latter. The writer concludes, therefore, that bone phthisis occurs not in the children but in the grandchildren of those who have died from pulmonary tuberculosis. The influence of the tuberculous virus must be exerted through several generations before the normal resistance of the osseous structures is so far weakened that they become a suitable field for the lodgement and development of the tubercle bacillus. In other words, the author's experience adds weight to the common belief that the so-called scrofulous affections are a modified form of tuberculosis, and would seem to justify the retention of the term scrofula as expressing a mild, or at least a modified, form of the tuberculous disease.

# News of the Week.

MICROBIC EXPECTORATION STATISTICALLY STUDIED.—Böllinger has shown the curious fact that a cubic centimetre of phthisical sputum contains from eight hundred and ten thousand to nine hundred and sixty thousand tubercle bacilli. In other words, in an ordinary copious expectoration the consumptive deposits nearly a million bacilli in his cup, and in an ordinary day he throws thirty or forty millions of the micro-organisms out upon the cold world. The, at a low estimate, ten thousand tuberculous patients in New York City daily expectorate some 300,000,000,000 bacilli! The yearly number would be—but the imagination fails to follow such statistics. It takes at least eight hundred of the microbes, however, to start up tuberculosis even in a guinea-pig.

FIVE CHINESE LEPERS were shipped home from San Francisco, October 29th, on a Hong Kong steamer. Among them was a man who was sent to San Francisco from New York, where he had been employed as a cook for laborers on the Croton Aqueduct work.

A SEVERE INDICTMENT.—*Lanphear's Medical Index* says that Hot Springs, Ark., contains sixty practising physicians. Of these, seven are regular, and the rest thieves or quacks, or both.

ANOTHER OFFICE SNEAK THIEF.—Keep an eye on the man who leaves a message to call on a fictitious patient, and takes anything within his reach. Such an individual, who is well dressed, tall, thin, and dark-complexioned, is in the business. The best rule is never to allow any stranger to "wait for the doctor," unless he or she is under the eye of one of the servants. If this is impossible, have nothing in the waiting-room that anyone can steal.

MORPHINE-VASELINE AS A LOCAL APPLICATION IN CANCER.—In the *Asclepiad*, May, 1889, p. 147, Dr. Richardson states that morphine combined with vaseline forms one of the best possible sedative applications in cases of external malignant disease in which there is ulcerative breach of surface with continuous pain. The author prescribes it in the proportion of four grains of morphine to an ounce of vaseline, with two drachms of chloroform. The chloroform acts as a sedative, and causes the morphine to be better distributed. Morphine-vaseline is most conveniently applied thinly spread over a piece of fine lint or soft linen. It is easily removable without injury to the surface upon which it is applied, and should be renewed twice in the course of twenty-four hours.

THE LATE DR. ISAAC E. TAYLOR.—"The Faculty of the Bellevue Hospital Medical College have the painful duty of directing a record in their minutes of the death of their first and only President, the late Dr. Isaac E. Taylor. His invaluable services in the organization of the College, and his unflagging interest in its progress and success need not be recorded here. The same may be said of his contributions to medical science and of his labors in the various medical organizations of this City and State. His refined, gentle, and kindly nature endeared him to all, and especially to those associated with him in the Bellevue Hospital Medical College; while his lovable personal qualities protected him from the enmities which too often attend professional success.—AUSTIN FLINT, *Secretary.*"

At a meeting of the New York Obstetrical Society, held November 5th, the following preamble and resolution were unanimously adopted:

"*To the President of the New York Obstetrical Society:*

"Your Committee begs leave to present the following resolution, as in some manner expressive of the profound sense of loss felt by this Society in the death of Professor Isaac E. Taylor, M.D.:

"*Resolved*, That the members of this Society have learned with deep regret of the death of Dr. Isaac E. Taylor, one of its most distinguished Fellows. It is their wish to express here their high appreciation of his purity of character, his enthusiasm in promoting obstetric science, his lofty ideals, the kindness of his nature, his self-sacrificing disposition, and his warm-hearted benevolence. In recalling his life and character it is pleasant to remember that the deeds of good men live after them. —FORDYCE BARKER, M.D.; WILLIAM T. LUSK, M.D.; WILLIAM M. POLK, M.D., *Committee.*"

"The council of the New York State Medical Association sadly records its unfeigned sorrow for the loss of a valued Founder, Fellow, and late President, endeared by his personal qualities as he was admired for his scientific attainments. An illustrious name is transferred from the active list to the roll of honor of those who have bravely borne themselves in the foremost rank, and fallen triumphant. Untiring in industry, wise in council, affectionate in friendship, steadfast in religious faith, beloved by his associates, and revered by the profession which acknowledged him as one of its leaders, Isaac E. Taylor lived an example for emulation by his survivors and successors, and rests from his labor, leaving a reputation unassailed by enmity, and beyond the reach of jealousy. By the Council: JOHN G. ORTON, M.D., *President;* E. D. FERGUSON, M.D., *Secretary.*"

DR. BLANC, OF AIX LES BAINS, France, is paying a visit to this city, and is the recipient of many courtesies from representative medical men here. Numerous dinners, private and public, are tendered him, and he cannot fail to appreciate that his distinguished professional standing accords to him a becoming recognition.

TREATMENT OF SPRAINS.—It may be observed that a sprain is frequently treated with a liniment advised by physicians. It is indeed painful to see a physician writing a prescription for a sprain. There are but two indications in the treatment of sprains: 1, To provoke rapid absorption of the fluid effused around and within the joint; and 2, to favor cicatrization of the torn parts by immobilizing the articulation. Now, the modes of treatment hitherto in vogue do not fulfil these two indications. Massage would seem to present some real advantages, but it can be of little service in the case of severe sprains, and mild injuries would probably do as well under rest alone. An elastic bandage, the depressed parts being covered with a layer of cotton so as to prevent too great a pressure over the prominence, and thereby causing sloughs, will meet the first indication, and by its use in procuring rest it will meet the second indication. This bandage acts like massage in promoting absorption, and also secures immobility of the joint. It is of equal service in sprains complicated with rupture of points of insertion, whereas massage would be productive of harm in cases in which splinters of bone were torn away. The practice of relieving the mind of the patient by giving him something to do in the way of applying bad-smelling liniments is a pernicious one, and really shows an unprofessional or unscientific attendant.—*Canada Lancet.*

ANNIVERSARY MEETING OF THE NEW YORK ACADEMY OF MEDICINE.—The Anniversary Meeting of the New York Academy of Medicine will be held on Thursday, November 21, 1889. The address will be delivered by Dr. William M. Polk, entitled "The Relation of Medicine to Some of the Questions of the Day." This meeting is public, and the laity—ladies and gentlemen—are particularly invited.

PANPHOBIA.—Sanitarians will sometimes develop a certain degree of panphobia, and Dr. Baker, of the Michigan Board of Health, appears to have become a little touched with this affection. He has issued a circular, in which he states that the autumn fires in the woods and fields produce an amount of smoke which aggravates disease, causes sleeplessness, nervous disturbance, and general discomfort; and he adds that tonsillitis increased fifty per cent., and inflammation of the brain twenty-five per cent., in the month of October! Dr. Baker should live awhile in London, one of the healthiest cities in the world, but enwrapped most of the time in a cloud of smoke. It is sometimes wise to remember *Punch's* verse:

"Hygeia, thou'rt clever,
But, 'twixt you and me,
To fidget forever
Is fiddle-de-dee."

A SUBSCRIPTION has been started in Italy for the purpose of placing a marble bust of the late Professor Loreta in the hall of the University of Bologna.

DRESS OF MEDICAL STUDENTS.—The Council of the Senate of the University of Cambridge have recently had before them the grave question of the proper academic raiment of Bachelors of Medicine. In future the official attire of holders of that degree is to consist of a black gown of the same shape as the scarlet gown worn by Doctors of Medicine, and a hood like unto that worn by Masters of Arts, but lined with pink instead of white silk. It is to be hoped that this "purple and fine linen" will not turn the heads of the "new-made baccaleres" in medicine.

STILL ANOTHER NEW HYPNOTIC is "Somnol." It is an ethyl-chloral-urethane ($7H_{12}Cl_3O_3N$). It is given in doses of about thirty grains. It has been discovered by M. Radlauer, of Berlin.

A Sad Comment on Medical Non-Success comes from Chicago in the shape of the suicide of Dr. Edward Deans, at the age of seventy-one. He had been county physician of Cook County from 1860 to 1863, but decreasing practice and lack of means and old age induced the suicidal act.

Synthetic Somnambulism.—Dr. B. W. Richardson says that inhalation of the vapor of amylene produces a condition of somnambulism.

A New Lister Dressing.—It is stated that Sir Joseph Lister has devised a new form of surgical dressing and new antiseptic fluids, which are to surpass all his former achievements in this direction. He had intended to communicate a paper on the subject to the Congress of German Surgeons, but was not ready in time. It is now expected that he will describe his new methods at a meeting of the Medical Society early in November.—London Cor. *Occidental Medical Times.*

Electromania.—No other term can be applied to the condition of mind from which Dr. F. T. Paine, of Texas, seems to be suffering in connection with the use of electricity. This agent, according to the gentleman in question, relieves the pains of labor, stops the pains of crying children, produces a copious flow of milk from agalactic mammæ, and in general is a wonderful and universal anæsthetic. That electrical currents sometimes relieve pain and cause nervous sedation is a fact long well-known, but their power is limited and the promulgation of ideas like those of Dr. Paine simply bring disrepute upon our science.

The First Congress of Physiology, which was held at Basle last month, is spoken of as having been a model of what scientific gatherings should be, that is to say, it combined the maximum of work with the minimum of junketing and miscellaneous festivity. The idea of holding such a meeting emanated from England, and it was taken up both at home and abroad with as much enthusiasm as physiologists could be thought capable of. The task of organizing the Congress fell on Professor Miescher, of Basle, who spared no trouble to make it a success. The invitations were issued in January, and one hundred and twenty-nine physiologists responded to the appeal.—*London Medical Recorder.*

A Truly Woman's Hospital.—We learn that under the patronage of the Princess of Wales London is to have still one more hospital, which is, however, to differ very materially from those heretofore founded. Not only are all the patients to be women, but all the physicians, surgeons, and apothecaries connected with the establishment are to be of the softer sex.

Stricken with Apoplexy.—Dr. Bancroft, Sr., of Concord, N. H., formerly superintendent of the State Insane Asylum, was recently stricken with paralysis while conducting the meeting, in Boston, of the New England Psychological Society, of which he is president; toward its close he noticed that his left side was becoming gradually disabled. With a singular fortitude under the circumstances, he continued his duties as presiding officer, rising to make some concluding remarks, though leaning heavily against the table for support, and even putting the motion to adjourn after some of his associates had assisted him into his chair.

Cerebral Hyperæmia is a term much heard of some years ago, but it has of late been sinking into innocuous nosological desuetude, and in its place are learned articles about "congestive neurasthenia." Terminology fluctuates, but disease keeps about the same.

A Medical College in Connection with Cornell University.—President Adams, in his recent annual report, suggests that a medical department of Cornell University, located perhaps in New York City, would be a proper thing to have.

Vacancies Hard to Fill.—The Medical Examining Board for the Navy, which convened in this city last August, is still in session, and has so far failed to get any successful competitors for its examinations. There are nine vacancies to fill and there have been only four applicants, none of whom have been able to pass the examinations. It is stated that there has seldom been a time when applicants for the medical corps examination were so hard to obtain. It is nearly useless for a candidate to present himself before the board unless he can show his A.B. as well as his M.D. In other words, a candidate must have a thorough collegiate education, must be more than ordinarily proficient professionally, and must possess a good physique. As compared with other Government Services it is stated that last year ten vacancies existed in the medical corps of the Navy and five vacancies in the Marine Hospital Service. It was found well-nigh impossible to get candidates for the Navy medical examination, whereas there were about seventy-five applicants for the Marine Hospital Service. Candidates were afraid of the former examination and preferred to try one known to be easier. It is not an uncommon occurrence for two hundred candidates to present themselves before the army boards when there exist not more than two vacancies.

A Medical Journal Wins a Prize.—The *Riforma Medica*, a daily medical journal published at Naples, has just received the first prize in the section of medical publications at the Exhibition of Hygiene and Medicine recently held at Padua.

A New Ophthalmological Society has recently been established in Paris. M. Chevalerau is president, M. Chauvel vice-president, and M. Gorecki general secretary.

Is Man Left-legged?—Dr. W. K. Sibley read a paper before the British Association in which he argued that man was naturally left-legged. Standing working with the right hand, there was a tendency to balance on the left leg. Race paths were nearly always made for running in circles to the right, and the majority of movements (such as dancing, running, etc.) were more readily performed to the right. In walking, it was natural to bear to the right; crowds as well as individuals did so. Troops started off with the left foot; the left foot was placed in the stirrup or step of the bicycle in mounting; the left foot was the one from which a man took off in jumping. From measurements made by Dr. Garson of the skeletons of the two legs, in 54.3 per cent. the left leg was the longer, and in 35.8 the right. From measurements of 200 pairs of feet, it was found that in 44 per cent. the left, and in 21.5 the right, was longer, while in 34.5 they were equal.

# Society Reports.

## THE PRACTITIONERS' SOCIETY OF NEW YORK.

*Stated Meeting, November 1, 1889.*

FRANCIS P. KINNICUTT, M.D., PRESIDENT, IN THE CHAIR.

DR. ANDREW H. SMITH read a paper (see p. 541) entitled

### SACCHARIN AS A MEANS OF ACIDIFYING THE URINE.

DR. WEIR said that he had resorted to the use of saccharin in cases of alkaline urine about a year ago, and had since used it for this purpose a number of times. The results obtained were not always satisfactory, but usually he had been pleased with the action of the drug. He had obtained the best results in cases of vesical trouble following a gonorrhœa. Several years ago, Sir Henry Thompson recommended the use of pure lemon juice in cases of bladder trouble associated with alkaline urine. The speaker had tried it in several bad cases of prostatic cystitis, with very satisfactory results. The lemon juice was not always well borne by the stomach, but when it was the effect was generally very good.

DR. BEVERLEY ROBINSON asked whether the drug had any toxic properties. It had been asserted that it was sometimes productive of unpleasant effects.

DR. SMITH said that he had never seen any unpleasant effects from the drug, although he had used it quite extensively, and had also taken considerable quantities himself. He had not found that it caused any disturbance of digestion, but, on the contrary, it had seemed to act as a preventive of gastric acidity. A number of experiments had been made upon dogs, with the result of proving pretty conclusively that the digestion was in no way impaired by the administration of saccharin. Dujardin-Beaumetz had at one time thought that it was a toxic substance, but he had since, the speaker believed, asserted that the drug was harmless.

THE PRESIDENT asked whether the prompt effect of the drug were not due as much to its antiseptic action as to its acid properties.

DR. SMITH replied that that was a possible explanation of its beneficial effect in the cases referred to, yet saccharin was a powerful acid, and was not broken up in the body as were the vegetable acids.

DR. H. F. WALKER then read the paper of the evening (see p. 530), entitled

### TUBAL PREGNANCY TREATED BY FARADIC CURRENT.

DR. WEIR said that he had seen a case last spring in which the faradic current had been tried and had failed. Laparotomy was then performed, and the patient made a good recovery. The age of the fœtus was less than three months. He asked what result was to be looked for in these cases when no interference was attempted. Did not the fœtus often die of itself, recovery then following?

DR. CLEMENT CLEVELAND said that a German writer had recently collected reports of a number of cases in which the fœtus had died spontaneously. In one case the pregnancy had occurred fifty years before the death of the woman, the dead fœtus having been carried all that time without giving rise to any serious symptoms. The trouble in these cases is to make a diagnosis early enough to allow of proper treatment. The speaker had seen a case about two years ago, with Dr. Hawley, in which the patient complained of a good deal of pain, and examination revealed the presence of an abdominal tumor. They came to the conclusion that the case was one of extra-uterine pregnancy. Laparotomy was performed, and the mass was removed without rupture. On opening the sac, a fœtus, apparently somewhat over three months of age, was found. The woman made a good recovery.

DR. WALKER said that he did not regard it as safe to leave an extra-uterine pregnancy without interference, in the hope of spontaneous recovery. There were doubtless some cases in which recovery would take place, but it was not right to trust to this.

DR. WEIR asked whether the fœtus at this age could be killed by electricity employed in this way.

DR. CLEVELAND said that it was certainly a well-authenticated fact that electricity could destroy the fœtus.

DR. C. L. DANA said that he had been struck, in looking over the literature of electro-therapeutics, by the absence of any observations in which it was absolutely demonstrated that the electric current commonly employed for this purpose would kill the fœtus. A faradic current had doubtless often been employed on pregnant women without killing the child. If the fœtus could be killed by an ordinary faradic current, how easy it would be to produce abortion. Theoretically, it ought to take an alternating current of considerable strength to kill a fœtus in this way. So far as he knew, there had been no careful experiments made upon animals to determine whether these small currents really would kill.

DR. A. H. SMITH said that he had once killed a mouse very promptly by passing through its body the current from a faradic battery. He thought that a mouse would have as much power of resistance as a fœtus only two months of age, or even younger.

DR. CLEVELAND thought that the large number of cases in which electricity had been successfully employed for this purpose was sufficient to demonstrate its practical efficacy, despite the theoretical objections that might be raised against it.

DR. ROOSEVELT thought that the death of the fœtus might be due to stoppage of the heart by the direct action of the electric current.

DR. DANA said that he would admit the strength of the argument from experience, still he thought it was rather strange that there was no record of any experiments showing that the death of the fœtus could actually be brought about by the use of such mild electric currents.

DR. GEORGE L. PEABODY presented a specimen of the new hypnotic,

### CHLORALAMID,

and related his experience with it. He had been using it in Bellevue Hospital for about three weeks, in cases of insomnia of different kinds, from different causes and varying grades of severity, often complicating grave organic lesions. Chloralamid is formed by a chemical union between chloral and formamid. Of its manufacture little or nothing has been published, because the drug has been patented. It occurs in the shape of brilliant, white crystals, whose taste is slightly bitter. It melts at 115° C., and by distillation is resolved into its two components. It is very slowly soluble in ten parts of cold water, and in one and a half part of ninety-six per cent. alcohol. It is much more soluble in hot water than in cold, but care must be taken not to use water heated above 60° C., for the reason that a higher degree of heat causes it to become decomposed into chloral hydrate and formamid. This resolution occurs with great uniformity in the presence of alkalies, whereas weak acids do not affect it. It is probably decomposed by the alkali of the blood, and thus rendered potent as an hypnotic by the slow liberation of chloral.

The advantages claimed for this preparation are chiefly that respiration and heart-action are not affected by it: especially is blood-pressure lowered but little. According to our present experience with it, it does not disorder digestion. An effective dose is from thirty to forty-five grains. It should not be forgotten, in using chloralamid, that it contains over seventy-six per cent. of chloral, and therefore it should not be used in doses larger than sixty grains, or in daily amounts greater than one hundred and twenty grains. In its action it is a less energetic hypnotic than is chloral hydrate, and less prompt in the production of its effects. It requires from half an hour to an hour to make its influence felt.

In Dr. Peabody's experience, a headache the next morn

ing was of frequent occurrence following a dose of this drug; but he had never known the stomach or digestion to be disturbed by it. It has the advantage of being much less irritating to the mucous membrane than chloral. It can be well given in powder—being not deliquescent—or dissolved in wine or spirits. Its solution becomes easier if the vehicle is warmed. Its taste is less unpleasant than that of chloral hydrate.

Dr. Peabody had found it useful in all varieties of insomnia which are not accompanied by pain. In phthisis it had given good results in his hands; also in alcoholism, in fracture of the base of the skull, in intermittent fever, in typhoid fever, in phthisis complicated by alcoholism, in pneumonia, and in cerebral hemorrhage with very great restlessness. In two cases of neuralgia with insomnia it gave great relief. One of them was a pregnant woman with severe neuralgic pains in the thigh; the other was a case of multiple neuritis of alcoholic origin. It had never produced any alarming symptoms of any kind, and the only unpleasant one caused by it in his hands was headache. This headache usually passed off early in the forenoon. There is no such drowsiness the next day as there is after sulphonal, but it has not seemed quite as certain in its effects as the latter drug.

Dr. A. H. Smith said that he had made a trial of this drug at the Presbyterian Hospital the evening previous. The cases in which it was tried were suffering apparently from simple insomnia. The house-surgeon had reported that the result was not at all satisfactory. The action of the drug seemed to be that of diluted chloral merely.

Dr. Cleveland said that he had tried it in one case, that of a lady who had been taking sulphonal for some time, and to whom he thought it desirable to give some other hypnotic for a while. The effect was very unsatisfactory. His patient said that the drug had failed to give her sleep, but rather caused excitement, and she also complained of headache. He had had to return to the sulphonal.

Dr. Beverley Robinson reported a case of

INTESTINAL HEMORRHAGE

occurring in a patient at St. Luke's Hospital. For the notes of this case he was indebted to the house-physician, Dr. William H. Caswell. The patient was a married woman, aged twenty-three, who was admitted to the hospital on October 27, 1889. She gave a previous history of languor and anorexia for one week or more, followed by a rise of temperature from 102° F. to 105° F. There had been persistent vomiting of the milk and lime-water which had been ordered as the sole diet. There had been no blood in the vomited matters. On admission the patient was able to talk intelligently, she had a pulse of about 90, a white-coated tongue, tympanites, and some tenderness on palpation over the abdomen. The vomiting continued, and toward evening on the day of admission began to show some blood mixed with the partially digested milk. The hæmatemesis continued through the night, about two or three ounces being vomited at a time. The bowels moved voluntarily four times during the night and early morning, the motions being loose, of a light yellow color, and unmixed with blood. The patient died about noon the day after admission. A diagnosis had been made of typhoid fever with intestinal hemorrhage, and after death a needle inserted into the left side of the abdomen, as nearly as could be determined into the lower part of the descending colon, showed the presence of dark-colored blood rather thick in consistency, though fluid. No autopsy was allowed. The case was interesting from the fact that no blood escaped from the bowel, but was vomited.

The President said that he had known of a case within the last ten days, occurring in the person of a physician, in which the symptoms were typical of typhoid fever. The patient died from hemorrhage. A large quantity of blood was vomited, but none passed from the anus.

The Society then adjourned.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON OBSTETRICS AND GYNECOLOGY.

*Stated Meeting, October 24, 1889.*

J. E. Janvrin, M.D., Chairman.

Dr. R. A. Murray read a paper on

THE MANAGEMENT OF ABORTION.

He had become convinced from observation that no fixed rules guided the general practitioner in the management of abortion; that the treatment was too frequently wavering, hesitating, a waiting on nature. While the application of antiseptic principles had been brilliantly successful in labor at full term, it had been greatly neglected in early delivery or abortion. It should be borne in mind that abortion, using the term to mean expulsion of the product of conception before viability, was always a pathological process.

In the early weeks the abortion was usually accomplished quickly, without very profuse hemorrhage, the deciduous membrane coming away with or after the ovum. The expulsion was not so much from uterine contraction as from hemorrhage into the uterus. At the middle of the second month the deciduous membrane was more firmly attached and likely to remain, causing hemorrhage. After this period the conditions were different; the placenta having fully formed the miscarriage could be divided into two stages: 1, The separation and expulsion of the fœtus; 2, the separation and expulsion of the afterbirth. Here hemorrhage was not usually an important factor before the expulsion of the ovum, unless traumatism were the cause. The contractions determined the expulsion, and as they were inefficient the case proceeded slowly. The hemorrhage taking place after expulsion of the fœtus usually ceased after a short time, to come on more profusely afterward. The placenta was often detached piecemeal. Hemorrhage was always present in abortion, was likely to be profuse, was always so when the expulsion was in two parts, the ovum first, then the membrane. It generally preceded as well as accompanied expulsion of the ovum, and its continuance was almost positive proof that the membrane or placenta had been retained.

The treatment of abortion was discussed under the headings prophylaxis or curative measures, and the management of complete or incomplete abortion. By prophylaxis was understood the treatment of the various constitutional and diasthetic causes which operated to produce miscarriage, such as syphilis, lead-poisoning, uræmia, profound anæmia; also local conditions, as changes in the uterus; traumatic influences, as heavy lifting, etc., which caused congestion of the uterus.

When abortion was threatened, shown by pain and hemorrhage, the patient should take the recumbent position, cool drinks be given, moral disturbances be avoided. For pain, administer opium in full doses. Drachm doses of compound extract of viburnum every two or three hours, until the pain and hemorrhage had ceased, had been useful. Chloral hydrate and bromide of potassium, by stopping pain and relieving nervous excitement, had contributed to allay uterine action.

If the symptoms continued, the cervix softened, there was tenderness in the uterus and ligaments, particularly if there had been an escape of the waters or any part of the uterine contents, we were warranted in ceasing our efforts at prevention and in hastening the abortion.

All examinations should be made with strict antiseptic precautions. If the hemorrhage were not profuse and the cervix not dilated, an injection of a solution of carbolic acid might be made, and an antiseptic pad applied to the vulva. To hasten the abortion a vaginal tampon was introduced of iodoformized or borated cotton, closely packed around the cervix by the aid of an applicator used through a speculum, the patient being in Sims' position. Where the hemorrhage was profuse alum might be used, but it was objectionable in that it contracted the

vagina. It possessed the advantage, however, of checking hemorrhage or damming the blood back in the uterus, causing the cervix to distend and enhancing uterine pains. If not left in more than twelve hours it remained antiseptic, and was to be preferred to the colpeurynter. Ergot might be given in moderate doses; large ones caused rigidity of the cervix and retarded expulsion. If, when the tampon was removed, the os was dilated, the ovum could usually be reached by the finger, in which case it was best to proceed to empty the uterus. Thorough exploration of the endometrium was facilitated by pressing the fundus downward and forward with the other hand over the abdomen; if the products of conception could be detached by the finger, it should be removed by a placental forceps passed up alongside the finger, grasping the loosened structure, twisting it around, and withdrawing it. If any portion remained it should be scraped off with the blunt Thomas curette; the operator should not be satisfied until the whole endometrium was smooth. The uterus should then be washed out with carbolized water, preferably through a double catheter, and the one he used most was Fitsch's, with a somewhat smaller curve than the original. The current continued to flow as the tube was withdrawn, membranes were washed from the uterus and vagina, and a pad then applied to the vulva. Hemorrhage would cease entirely on completely emptying the uterus. He had not had occasion to repeat the uterine injection; there had been no febrile or septic symptoms, no pelvic peritonitis. If the single catheter were employed, care should be taken that there was perfect egress of the fluid. If the uterus had been depressed in the way mentioned, one must not forget to lift it by the finger to the normal position. No antiseptic, as iodoform, should be used in the dressings which would obscure the odor should decomposition afterward take place. Nor did he ever use bichloride of mercury unless the products removed were already decomposed; in that event he employed 1 to 5,000, leaving none of the injection in the uterus. Such was the course he pursued when he had seen the case from the beginning.

In incomplete abortion the patient might give one of two histories: 1, The products of conception having passed, but not saved for inspection; 2, presence of pain and hemorrhage, no knowledge of escape of the ovum, although it might have taken place with the bloody discharge.

If the abortion were incomplete and the cervical canal closed, what course should be pursued? This had been a mooted question. Many authorities were in favor of emptying the uterus at once; others, especially the French, advised the expectant plan. The author thought that if the uterus was still large and the cervix soft, though but slightly open, it would be far safer, although hemorrhage may have ceased, to carefully introduce the blunt curette or small uterine sound and gently explore for inequalities of the endometrium; if found, to dilate, remove the remains, and use the douche. In neglected incomplete abortion, with fetid lochia, retained placenta, intermittent hemorrhage, septic absorption, the canal should be dilated, the cavity thoroughly washed by an antiseptic solution, the blunt or sharp curette used, this followed by another intrauterine and vaginal douche, the vaginal douche to be repeated if the fetor continued in the lochia. Such remedies as alcoholic stimulants, digitalis, and quinine might be called for. The author also discussed briefly the use of galvanism and faradism for exciting uterine contractions. He doubted their value, although he had had no personal experience with them. He thought the curette was superior to the use of the brush, or what was called *grattage* by the French.

There was a large mortality from puerperal diseases, due in considerable measure to neglected cases of abortion. This would cease if physicians generally would observe the simple rules described in the paper.

Dr. A. F. Currier thought the treatment of abortion was one thing in regard to which the profession had reached a certain degree of exactness, and it was largely due to advances made in antiseptics. There was little to criticise in the paper. He thought, however, that uterine contractions had more to do with early abortion than the author had stated. He laid stress on the use of the blunt curette in diagnosis, particularly as to the condition of the endometrium after the fœtus had been expelled; it was superior to the finger. After cleaning out the uterine cavity, he applied to its surface pure carbolic acid. He knew of but one exception to the course of treatment by the use of the curette, etc. It was in a class of cases like one he saw last summer, in which the patient, seen in consultation, had become almost moribund from loss of blood and exhaustion. She was extremely anxious to have a child, and for that reason her physician had not hastened abortion. When Dr. Currier saw her they tamponed the vagina; in a few hours the fœtus came away, and, as far as he could determine, all the membranes. Because of this fact and that of her exhausted condition, he did not curette the uterus. She died in about forty-eight hours. In addition to tamponing the vagina, spoken of by the author, he thought it important also to insert a plug into the uterus.

Dr. P. F. Mundé referred to a paper which he published in 1883, taking positive ground regarding the immediate removal of the secundines, and it elicited a good deal of criticism. Speaking now of early incomplete abortion, he would take equally positive ground; seeing that the fœtus could not be saved, he would endeavor to spare the woman all the blood possible by hastening dilatation. That he would bring about by tightly tamponing the vagina with iodoform gauze so that there could be no escape of blood. The gauze could be removed in twenty-four hours and replaced if necessary. That was not always sufficient. It was sometimes necessary to dilate the external os and rapidly complete the abortion, in which case he would use a tupelo tent. Being able to introduce one or two fingers, he would endeavor to remove the contents of the uterus in tact. This, however, could seldom be done, for the consultant rarely saw a case of abortion in its incipiency, or before the fœtus had escaped.

The class of cases which he usually saw was those in which there was hemorrhage or septicæmia, and the canal was usually large enough to admit the finger; if not, it could easily be opened. He then curetted with the blunt curette, or, if necessary, Carl Braun's curette. He had long taken the ground that a woman who had incompletely aborted was liable to one of two serious accidents, namely, hemorrhage, which might be fatal, or septicæmia. Consequently he contended that, notwithstanding some physicians had seen many cases in which nature had saved the woman, yet none should be allowed to linger and take such grave risks. Having curetted, he introduced a forceps and brought down the membranes, then reintroduced the finger to see that the endometrium was smooth. He washed out the uterus with hot water through a double catheter; never employing corrosive sublimate, through fear of poisoning. Out of some hundred cases he had lost only one, and in that instance he believed the pelvic peritonitis was due to sepsis developing before the commencement of treatment.

Dr. Fry, of Washington, had been especially interested in the advice to use antiseptic injections. Regarding viburnum, he had not been able to satisfy himself that it did any good. The tampon he used very little, or only a very short time, believing it to be better to employ a dilator. Tents were objectionable; even the laminaria had been found to contain micro-organisms after a few hours presence in the cervical canal. He preferred applications of equal parts of creosote and iodine to carbolic acid, as the action of the latter on the lining membrane was very superficial. Dr. Grandin had suggested that he give his experience with electricity. He had made some experiment in this direction. The faradic current was used only with a view to increase the uterine contractions when present, not to provoke them in the first place. He had also made some experiments with the galvanic current to

test the coagulating effect of the acid from the positive pole as a means of cutting off the blood-supply of the membranes and thus bringing about their expulsion; this pole was also known to eliminate oxygen and chlorine, which were powerful antiseptics. His experiments had not been completed.

DR. MALCOLM MCLEAN had found that the cotton swab would often pick up shreds on the uterine walls which the curette and other instruments would fail to bring away. Shreds of considerable size sometimes came away on the cotton swab wrung out of ninety per cent. carbolic acid. He further spoke of valuable service derived from Emmet's curetting forceps.

DR. H. J. BOLDT thought the pad from a three per cent. solution of carbolic acid was not sufficiently antiseptic; the bichloride pad was better. He thought the finger was far superior to the curette in making a uterine examination, and ought always to be given the preference. He did not approve of the use of so much force in removing the membranes as was implied in the recommendation of some instruments. Better leave such pieces of membrane to be dislodged by time.

DR. COLLYER could not understand how, during the early weeks after the third month, one could remove all the secundines without the sharp curette; the finger or blunt curette would not answer. He said that as soon as hemorrhage occurred it would be impossible to stop the miscarriage; therefore he forcibly dilated the cervix and curetted with the sharp curette, then used a cotton swab dipped in a solution of bichloride, followed by tincture of iodine on a cotton applicator, and finally a vaginal tampon of antiseptic wads. That was up to the third month. After that period he employed open drainage or packed the endometrium with iodoform gauze. He used bichloride injections. He added that if peritonitis developed he applied ice-bags.

DR. MUNDÉ remarked that he had often been called to women who had lost some blood by threatened abortion, the abortion, however, not becoming complete.

DR. E. H. GRANDIN wished to place himself decidedly in opposition to the sharp curette, either after miscarriage, abortion, or labor at full term. Traumatism, which was liable to follow its use in the puerperal uterus, must be strictly avoided.

DR. KEARNEY gave some experience, apparently showing the necessity for the sharp curette in certain cases. He also related two cases in which there was retroflexion with fixation, due seemingly to perimetritis; but the injection of hot water in one caused the uterus to spring suddenly back and become anteflexed, showing, as was shown by the post-mortem examination in the other, that perimetritis did not exist.

Dr. Murray closed the discussion.

DR. H. C. COE then read the history of a case (see p. 478) of

RUPTURED UTERUS AT TERM; HYSTERECTOMY.

DR. A. P. DUDLEY related a case of

EPITHELIOMA OF THE OVARIES AND UTERUS; EXTIRPATION.

The patient was an Irishwoman, aged fifty-one, mother of three children, had been in hospital about a year before she returned to him to have something radical done for her relief. There were no objective symptoms of malignant disease, the physical signs were those of uterine fibroids, and he opened the abdomen with a view to doing suprapubic hysterectomy. He removed the ovaries, tubes, and uterus, in the manner which he designated the intrapelvic but extraperitoneal method of treating the stump. When the operation was completed it left a row of sutures extending down the broad ligament on one side, across over the stump through the peritoneum, and up the broad ligament on the opposite side, while the stump, consisting of the vaginal portion of the neck, lay beneath. About the third or fourth day a little rise of temperature was likely to take place, when he inserted a drain up through the cervix, and the patient then went on to recovery. He had so operated about five times, all the patients recovering. The pathologist leaned to the diagnosis in this case of epithelioma of the ovaries and uterus.

DR. GOFFE had performed this operation successfully, and thought well of it.

THE CHAIRMAN suggested inserting a drain before the rise of temperature took place, indicating the formation of pus.

## Correspondence.

### A PLEA FOR THE MASSEUR SERIOUSLY CONSIDERED.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: THE RECORD of October 26th issues a word of warning against the masseur, who "is bearing down upon unhinged humanity with a steady and relentless stride," and who, instead of losing heart on account of increased competition, "simply enlarges his field."

The writer has had the audacity, though only a layman, to engage in medical gymnastics and massage as a profession, but hopes that you, notwithstanding this, will allow him to say a few words on the subject.

Massage and medical gymnastics are practised by a great many in this city, the majority of whom are qualified for it neither by congenital intellect nor by acquired education. They are practised by totally uneducated persons partly on their own responsibility, partly and, I must confess, largely on the recommendation of physicians. If this is an evil, and everyone who has only a little sprinkling of common-sense admits it to be, who is to blame for it? Is it the public at large, who read the advertisements of "schools," "colleges," and "bureaus of massage" in the Medical Register and the medical journals, and who know their medical adviser to prescribe massage, many times allowing the patient to send for the "rubber doctor" around the corner, because he is cheapest? Certainly not. Or are the men and women, trained or untrained nurses, to blame, who when tending a patient are told by the physician to "rub" the paralyzed limb, to "press" the painful nerve, or to "knead" the constipated bowels? Is there any wonder that these persons think it a very easy way to make money, that they know it all, and that they are full-fledged "rubbers?" Certainly not; this is only natural and to be expected. The blame falls exclusively, or nearly exclusively, on the doctor who, when prescribing massage, or "Swedish movements," recommends no operator at all, or one who has not proven himself to be thoroughly versed in both the theory and practice of his business. It falls on the physician who, himself knowing practically nothing about this treatment, recommends the first man who comes to his office presenting a tolerable respectability in dress and manners. That physician is also to blame who calls in a good masseur or gymnast, but advises the patient to have a servant to look on a few times, afterward to go and do likewise; and also on him who considers himself in learning and social standing so far above these laymen that he does not deign to talk or (I dare say it, though I imagine I hear the sneer!) consult with the man engaged upon his recommendation. If he did so, he would soon find, even in this profession, men his equals in education and learning even if they never studied materia medica. He would also find men whose ignorance in the rudiments of their own science would show itself so plainly already at the first conversation, that the physician should be very glad to shun them in the future.

You also complain that the field of massage of late has become so enlarged. The masseur claims to be able to accomplish very much! Well, yes! But a great part of this enlargement is legitimate. The skilful gymnast or masseur can really accomplish more nowadays

than twenty-five years ago, just as the physician can. But though I have seen men claim by massage to press the adipose tissue out through the pores, or by magnetic action to take the patient's ailments in their own bodies, and other things equally easy for them, I never yet heard of massage of the heart, which you mention! But do you mean general massage and systematic gymnastics in cardiac diseases?—if so this is certainly nothing worth sneering at. The benefit from this is perhaps greater than from Oertel's method, and it would perhaps not be totally out of place for physicians to consider if this treatment in many cases of atrophied, hyperrophied, or fatty heart be not indicated.

And when the intelligent mechano-therapist gets a case from a physician (and, as a rule, he takes no cases which have not passed through the hands of an M.D.) he asks for the history and the diagnosis, and then gives his opinion whether he can do everything, anything, or nothing, and his reasons for the opinion. If this opinion, perhaps afterward, is found to be erroneous, what more! This happens to us all, and cannot be helped.

This letter may look as a defence against the attack made by you on masseurs, but that is by no means my intention: hit harder, if you please! Nobody will enjoy it better than the able men in that profession. I join also in your warning: "Keep a close eye on the masseur;" but keep also a close eye on the massage to detect what can really be accomplished by it, in order not to throw out the child as well as the bathing-water.

Very respectfully,
M. G.

NEW YORK.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 3 to November 9, 1889.*

O'REILLY, ROBERT M., Major and Surgeon. By direction of the Secretary of War will, at the expiration of his present leave of absence, proceed to Fort Logan, Col., and report in person to the commanding officer of that post for duty. Par. 6, S. O. 256, A. G. O., November 2, 1889.

MERRILL, JAMES C., Captain and Assistant Surgeon. Relieved from duty at Frankford Arsenal, Pa., and ordered to duty at Fort Reno, Ind. Ter. Par. 6, S. O. 256, A. G. O., November 2, 1889.

BLACK, CHARLES S., Captain and Assistant Surgeon. Relieved from duty at Fort Sidney, Neb., to take effect upon the expiration of his present leave of absence, and to report in person to the commanding officer, Fort Du Chesne, Utah. Par. 6, S. O. 256, A. G. O., Washington, November 2, 1889.

POWELL, JUNIUS L., Captain and Assistant Surgeon. By direction of the Secretary of War, leave of absence for two months on account of sickness, with permission to leave the Division of the Missouri, is granted him. Par. 2, S. O. 258, A. G. O., Washington, November 5, 1889.

JOHNSON, R. W., Captain and Assistant Surgeon. Leave of absence for one month is granted, to take effect on or about November 10th. Par. 4, S. O. 110, Department of Arizona, Los Angeles, Cal., October 29, 1889.

IVES, F. J., First Lieutenant and Assistant Surgeon. Granted two months' leave of absence. Par. 3, S. O. 256, A. G. O., November 2, 1889.

WILLCOX, CHARLES, First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, to report to the commanding officer at Fort Columbus, N. Y., for duty at that station.

MCVAY, HARLAN E., First Lieutenant and Assistant Surgeon now at Fort Mackinac, Mich. By direction of the Secretary of War, to report in person to commanding officer at that post for duty.

FRICK, EUCLID B., First Lieutenant and Assistant Surgeon. By direction of the Secretary of War, to proceed from Philadelphia, Pa., to Fort Keogh, Mon., for duty at that station.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 9, 1889.*

MACKIE, B. F., Surgeon. Detached from the U. S. S. Ossipee, and placed on waiting orders.

PICKRELL, GEORGE MCC., Assistant Surgeon. Detached from the U. S. S. Ossipee, and placed on waiting orders.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 9, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 35 | 8 |
| Scarlet fever | 47 | 2 |
| Cerebro-spinal meningitis | 4 | 4 |
| Measles | 41 | 4 |
| Diphtheria | 91 | 15 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE STOMACH-BRUSH.—A dental journal publishes the following, translated from the German: In 1713 there was published a pamphlet entitled, "A Complete Account of the most Useful Stomach Brush which is now to be had at the Brushmakers at the Old Court Sadler's Shop in Broad Street in Colln-on-the Spree." Many a one may have wished to be able once in a way to have his stomach thoroughly cleaned out, and this speculative brushmaker gave a practicable means to give effect to this wish. In the pamphlet there is a drawing of the stomach-brush; it resembles a pipe-cleaner, but, of course, is larger. The stalk is made of four wires twisted together, covered with thread, silk, or small ribbons; it is twenty-six inches long. The brush at the under end is two inches long and one and a half broad, and is made of goat's beard hair; but, when one has been accustomed to use it for three or four weeks, a horse-hair brush is substituted, this hair being somewhat stronger, and so the effect is better. The application of this most excellent brush is very simple. It is pressed through the throat down into the stomach, which, by drawing up and down of the brush, is cleaned; thereafter cold water or brandy is to be drunk, and the operation is repeated till the cleaning is perfect. The cure is to be repeated every morning. The author says: "At first you will find it rather troublesome to get the brush down, but when you put it in your mouth and on your palate, draw in breath and wind, and press it gently and gradually down, and, without any particular trouble, it will reach the stomach. After eight to fourteen days' practice, it will come as easily to you as eating or drinking." Of course, the daily application of the stomach-brush is the infallible remedy or preventive of all diseases that can be imagined. "Whoever uses this cure requires no other medicine, for it is good against all—cold, hot, and poisonous fevers, it gives a good appetite for eating, it is good against asthma, hemorrhage, headache, chest complaints, coughs, consumptions, apoplexy, toothache, sore eyes, dysentery,

quinsy on the tongue, quinsy in the throat, ulcers, abscesses, cardialgy; it favors digestion, strengthens the heart, drives away pimples on the skin, is against choking in the stomach, etc., makes too fat and asthmatical and swollen-up people thin, and, on the other hand, makes meagre and thin people fat. The great effect, however, is produced only when the use of the brush is combined with that of an elixir. This is compounded of aloes, saffron, rhubarbona, lark-mushroom, wormseed, eugian, myrrh, theriac. After the stomach-washing, forty to fifty drops of the elixir is to be taken in wine, and this preserves for twenty-four hours against all poison and pestilence."—*British Medical Journal.*

Disease-Ridden Indians.—Indian Agent Jones, of the Berthold Agency, has made application to the Department for a physician who shall remain constantly at the Agency. This request is the result of hurried examination of the health of the Indians. Mr. Jones was recently appointed. He finds that disease runs rampant among the entire Indian community. The Indians at this Agency are in a most deplorable condition. In the past their health has been neglected, they have been permitted to roam about the country and, as a result, some members of the tribe have returned to their camps laden with disease, which has spread to nearly every Indian at the Agency. It is understood that the request for a physician has been granted, and that steps will be taken to prevent the further spread of disease among the tribes. The condition of affairs at the Agency in the past has not only ruined the health of the Indians, but has been a constant menace to the whites with whom the Indians necessarily associated. So great became this danger that the county and city authorities were alarmed, and the Mayor of Bismarck was compelled to serve notice on the former agent that if he did not keep his Indians on the reservation an investigation of the matter would be demanded.—*The Journal of the American Medical Association.*

An Artificial Laryngeal Pouch.—One of the duties of the army surgeon is to "spot" the professional malingerer, whose wiles occasionally testify to the possession of an amount of cunning and technical skill which, in civil life, might prove highly remunerative if judiciously applied. Our "lobsters," however, are mere bumpkins compared to the artful Hindoo, who, "for ways that are dark," can give him points in abundance. The professional thief in India experiences a great deal of difficulty in finding a safe receptacle for his plunder, and it has been recently discovered that many of them are in the habit of bringing about the formation of a pouch-like recess in the vicinity of the epiglottis, by allowing a leaden ball to rest *in situ* for long periods of time. When repeated at frequent intervals a pouch is formed, capable, in some instances, of holding as many as ten florins or an equivalent bulk of jewels without any obvious interference with respiration or speech. An examination of the prisoners at Calcutta revealed the fact that upward of twenty of them were provided with this convenient pouch.—*The Hospital Gazette.*

Psychical and Physical Changes Following Removal of the Ovaries.—In an elaborate study of this subject by Dr. Glaevecke (*Archiv. f. Gyn.*, Bd. xxxv., Heft 1), the author says: "After removal of the ovaries, menstruation ceases permanently in eighty-eight per cent. of the cases, either at once, or after a certain interval, while in the other twelve per cent. the flow becomes scanty and irregular. Vicarious hemorrhages are rare. In one-half of the cases observed the menstrual molimen persisted after the cessation of the flow. The usual climacteric phenomena, vertigo, irregular sweating, leucorrhœa, etc., are common, as well as the atrophy of the genital organs which follows the establishment of the menopause. Even when the uterus is considerably enlarged, by reason of the presence of chronic endometritis or fibroids, it commonly returns to its normal size after oöphorectomy, or even becomes atrophied. The general condition usually improves after castration;" in forty-two per cent. of his case the patient became stouter. Sexual desire was dimins ished in the majority of the cases; in some instances it was extinguished. The physical disturbances were most marked, sometimes amounting to melancholia. "In short," says the writer, "removal of the ovaries induces an artificial menopause which is exactly similar to the natural one."

African Jumpers.—Dr. Bennett, of Griqualand, writes in the *South African Journal* an account of a peculiar nervous affection which is met with among the Griquas and other natives and individuals of mixed descent living in Griqualand. He suggests that perhaps the affection is similar to that prevalent among the French Canadians, and known there by the name of "Jumpers." Dr. Bennett says: "The affection is entirely confined to the male sex, and I have never seen or heard of a case in the female. The victims of this strange form of neurosis go through the most extraordinary and grotesque antics on the slightest provocation. A whistle, a touch, a shout—anything, in fact, sudden and unexpected, will 'set them going.' Some will stiffen their limbs, make hideous grimaces, and valse about as if they had no joints in their body. Others will jump wildly about like dancing dervishes, imitating the particular sound that had acted as an exciting cause. Some, again, will make use of the most obscene expressions on a transient impulse, correcting themselves immediately afterward, and expressing their regret for having used such language, while others, on the spur of the moment, will do anything they are told to do. If they should happen to have a piece of tobacco in their hand, and one should suddenly shout, 'Throw it away!' they will do so at once, running away for a short distance, and trembling all over their body. I remember one case in particular; it was that of a 'Bastard' boy, a mason by trade. He had been handed a piece of tobacco, and the person who handed it to him shouted out suddenly, 'Throw it away; it is a snake!' He first danced about wildly for a short time, and then ran away as fast as he was able; but he had not gone far when he fell down in a 'fit,' and it was some time before he recovered." As to the probable cause of this affection, Dr. Bennett is disposed to ascribe it to the indiscriminate intermingling of the blood of different racial types, and the intermarriage of those standing in close relationship to one another.

Treatment of Dandruff.—The following suggestions are sent by correspondents of the *British Medical Journal*. P. M. S. suggests the following ointment to be applied to the roots of the hair every night for a fortnight or so. ℞. Ung. hydrarg. nitr., ʒ j.; vaseline, ʒ vij. The hair to be cut short and well brushed every morning. R. T. suggests the following ointment, used as a pomade: Red oxide of mercury, ammoniated mercury, of each ten grains; spermaceti ointment, an ounce. Dr. H. Laird Pearson writes: "Personal experience enables me to recommend the following: ℞. Hydrarg. perchlor., ʒ ss.; glycerine, ʒ v.; eau de Cologne., ʒ v.; aq. ad ʒ xx. M. Ft. Lotio No. 1. ℞. β naphthol, ʒ ij.; alcohol. ethylic., ʒ xx. M. Ft. Lotio No. 2. ℞. Acid. salicyl., ʒ ij.; tr. benzoin co., ʒ jss.; ol. olivæ ad ʒ x. M. Ft. applicatio. Wash the head thoroughly with terebene soap; rinse well and dry with a rough towel; rub in some of the No. 1 lotion and dry with a towel; next apply lotion No. 2, and allow it to evaporate off; finally rub in thoroughly a small quantity of the oily application. The treatment should be carried out daily for a month, and then every alternate day for a fortnight. The dandruff disappears in a few days, and the hair becomes vigorous and supple in a remarkably short time." E. Mansel Sympson, M.B., writes: "I have used the accompanying formula with very good results, both in simple alopecia, and that attended by, or perhaps rather caused by, dandruff. ℞. Tr. cantharidis, ac. acet. dil. āā ʒ ss.; sp. rosmarini, ʒ j.; glycerin., ʒ ss., aq. rosæ dulc. ad ʒ viij. Ft. lotio. Let this be well

rubbed into the roots of the hair with a small sponge or a flannel, and let special care be taken not to wash the head, for, as far as I have seen, washing only aggravates the evil. Good brushing and combing should be quite sufficient to keep the hair clean. The formula given above is slightly altered from one of the late Mr. George Nayler's."

THE PARASITIC NATURE OF PAGET'S DISEASE OF THE NIPPLE.—It is well known how intractable this affection is, and how often, indeed almost invariably, it leads to the development of cancer. Various theories as to its nature have been propounded by Butlin, Thin, Dühring, and others, some supposing it to be eczema of the nipple spreading into the galactophorous ducts, others a disease *sui generis*. Dr. J. Darier now claims to have proved that it is parasitic in character. If epidermic scales are taken from the diseased surface and treated with dilute ammonia or bichromate of ammonia, round bodies surrounded by a refracting membrane will be seen among the epithelial cells, and frequently within them. These bodies have a diameter equal or superior to that of the cells; their investing membrane contains a single mass of protoplasm, or more or less numerous corpuscles. These bodies are certainly coccidia. In epithelioma of the nipple the granulations contain similar parasites. M. Darier suggests that this discovery may be the first step toward the elucidation of the nature and mode of origin of some epitheliomata.—*Medical Recorder.*

INHALATIONS OF COLD AIR IN HÆMOPTYSIS.—Dr. P. de Tullio, assistant to Professor Cantani in the University Clinique at Naples, has lately suggested a method of applying cold air directly to the interior of the lungs in cases of pulmonary hemorrhage. The apparatus consists of a metal box through which run several tubes, which communicate with an outer larger tube leading to a mouthpiece, which the patient holds between his lips. The box is filled with ice, or with a mixture of snow and salt, so as to cover the tubes. Air is then pumped with a suitable bellows into the tubes, and in its passage through the box containing the refrigerant substance it becomes cooled down to 0° Centigrade. This is ascertained by means of a thermometer introduced into the tube at some distance beyond the box, through an aperture which can be closed with a cork. Dr. de Tullio reports three cases in which severe hæmoptysis was arrested by this plan, when drugs, ice to the chest, and the other usual measures had failed. It does not, of course, cure the condition on which the bleeding depends, but it is an effectual remedy for the symptom.—*Medical Recorder.*

SCARLATINAL RHEUMATISM.—Ollivier, in a recent lecture delivered in the Hopital des Enfants Malades, treats of the swollen, painful joints which often complicate or follow scarlet fever. As to the nature of scarlatinal rheumatism, he thinks that this is a complication, and not an intercurrent affection; in other words, we have here a malady which has sprung up under the influence of scarlet fever, and which is only an exaggeration of certain phenomenon determined by this disease. Sennert came near the truth when he said that toward the close of scarlet fever the peccant matter attacks certain of the joints and inflames them. Although Blondeau, eighteen years ago, thought that he had established a parentage between scarlatina and rheumatism, both having among their manifestations arthritis, sore-throat, endocarditis, and cutaneous lesions, the erythema nodosum being to rheumatism what the scarlet eruption is to the other disease, there is really nothing but a certain analogy to support this view, while the two diseases are clearly separated by their origin, their symptoms, and their effects. The view is much the more probable that the arthritis of scarlet fever, like the endocarditis and pleurisy which sometimes accompany this specific fever, is but the manifestation of the exanthema on the serous system in general. The most of these arthrites, formerly called secondary rheumatisms, merit the name of infectious arthrites. They are, in fact, pseudo-rheumatisms, such as one meets in the course of divers diseases: blennorrhagia, puerperal fever, dysentery, erysipelas, even tuberculosis. By what processes are these morbid phenomena of the serous membranes brought about? It is probable that they are due to the irritation determined by certain micro-organisms which penetrate these closed sacs, being conveyed by the blood; in fact, recent bacteriological investigations have more than once proved the presence of microbes in the joint liquids of infectious arthritis. As for the prognosis of scarlatinal rheumatism, it is relatively favorable, this complication generally terminating in recovery. It will not do, however, to forget that the joints may suppurate, and that the patient is then especially in danger of vegetant endocarditis, or of suppurative pericarditis.—*The Boston Medical and Surgical Journal.*

THE TREATMENT OF DIARRHŒA IN PHTHISIS.—Dr. Polyák, of Görbersdorf, gives in the *Orvosi Hetilap* the results of some trials he has made of two recently suggested remedies in the diarrhœa of phthisis—viz., silicate of magnesia in the form of talc which has been recommended by Debove, and lactic acid recommended by Drs. Sézary and Aune. About eight ounces of talc were well shaken up in a pint of milk, and this or even a larger quantity was given daily. As a rule, it arrested the diarrhœa after having been used for a couple of days, but if it was left off the diarrhœa returned. It was found, however, that patients liked the milk mixed with talc even better than ordinary milk, but it could not be taken for more than six or seven days, as after that time complaint was made of a troublesome feeling of oppression in the stomach and bowels. Dr. Polyák thinks it quite impossible that long-continued use of talc can heal intestinal ulcers. Lactic acid proved in his hands a much more satisfactory remedy. The initial dose employed was thirty grains per diem in four ounces of water; this was increased subsequently, but not more than seventy-five grains per diem were given. On the third day the diarrhœa and the pain were generally arrested, and during the next day or two the stools assumed their ordinary character. It was found advisable to continue to give small doses for some time longer. The patients bore the treatment well; it produced no diminution of appetite, and, unless continued for a long time, gave rise to no disagreeable symptoms. Dr. Polyák thinks it possible that even ulcers of the intestines may be healed by this means.—*The Lancet*, May 18, 1889.

TREATMENT OF DIPHTHERIA.—At a recent meeting of the Société Médicale des Hôpitaux, M. Gaucher mentioned the fact that he had cured seventeen cases of serious diphtheritic angina by a new method—namely, ablation of the false membranes, and antiseptic cauterization of the mucous membrane. He added that M. Dubousquet-Laborderie (St. Ouen) had treated 81 cases by this method in four years; 4 of the patients succumbed to croup, but they were under the age of five; and the false membranes had already extended to the larynx when the treatment was applied. There were no toxic symptoms in any case, although the urine was black, showing that the treatment acted generally as well as locally. M. Gaucher employs a solution of 5 to 10 grammes of crystallized carbolic acid in 10 grammes of alcohol, adding 70 centigrammes of tartaric acid to render the solution antiseptic. After scraping the throat thoroughly with a short-haired brush he applies the solution. This operation is repeated three times daily. Every two hours the mouth is washed out with a 1 in 100 carbolic-acid solution.—*British Medical Journal.*

A POPULAR REMEDY FOR ASCITES.—In some places a popular belief is prevalent that dropsy may be cured by drinking the fluid removed, and patients often submit to a tapping for the sake of securing the fluid rather than because they have any faith in the curative effects of the operation itself. Dr. Duhamel, not long ago, published in

the *Gazette Médicale de Strasbourg* a case in which this method of treatment was put to a practical test, the result being such as to justify to the full the high opinion previously held of its efficacy. The patient was a man, aged fifty-seven, who was admitted into the hospital with an enlarged liver, due to excessive spirit drinking, and consequent ascites and œdema. He was tapped, and a large quantity of fluid withdrawn, but the peritoneal cavity rapidly refilled, and it was found necessary to repeat the operation at intervals varying from one to five weeks. This treatment was continued for about two years, during which period he was tapped fifty-three times. On the last occasion the patient asked whether he might drink the liquid that had been withdrawn, and though advised against it, he nevertheless secured some of the fluid, and drank about half a pint of it. He suffered no ill effects from his unpalatable potion, but on the contrary the dropsy did not recur, the œdema cleared up, and in four or five weeks the man was enabled to leave the hospital, a firm believer in the curative virtues of ascitic fluid. He reported himself some months later, during which time he had resumed his employment, and neither the dropsy nor the œdema had recurred, although the liver was still perceptibly enlarged.

Prophylaxis of Phosphorus Necrosis.—At a recent meeting of the Académie de Médecine M. Magitot read a paper on phosphorus necrosis. From sixty-five cases which he has observed in France and abroad, M. Magitot concludes that the affection is produced by the phosphorus introduced into a speciál form of caries, which he terms penetrating caries. The prophylactic measures consist in thoroughly ventilating and isolating phosphorus factories, and in suppressing or neutralizing the phosphorescent atmosphere. No persons of defective constitution should be allowed to enter the factories, more especially when the mouth is affected. If these measures be rigorously observed all danger of phosphorus necrosis will be averted.—*British Medical Journal.*

Heroic Treatment of Pneumonia.—The Russian peasants have little faith in expectant treatment, and believe that disease is an enemy that can be overcome only by powerful weapons. Nekrasoff, a Russian poet, in his "Red-nosed Frost," depicts graphically the treatment that is pursued in pneumonia, which is not very dissimilar in some respects to that followed by some of our brethren in Germany. When the patient came home sick, after being exposed in a snow-drift for several days, his mother poured cold water over him from a watering-pot, and then put him in a hot bath. But this brought no improvement, and then they called in the old women of the village, and on their advice gave the patient a good rubbing and then put him several times in a sweat-box. These measures failing, they gave him a cold bath by letting him down into a hole in the ice, and followed it up with a sweat in the hen-roost. The poet remarks that the poor man submitted to all this like a dove, but got no better notwithstanding. Then a peddlar, who happened to drop in, suggested that they put the patient under a bear so as to have him well kneaded. At this point, however, the wife interfered, and forbade further torturing of her husband, and the poor fellow soon after died in peace.

Eruption of Teeth in Old Age.—Mr. George E. Fisher reports in *The Lancet* the case of a lady, aged sixty-four, who asked him to lance her gums as they were very painful, having kept her awake for several nights. On examining the gums of the upper jaw he found a well-developed new canine tooth protruding, and the corresponding side full and painful, feeling to the touch distinctly as though a tooth were coming through. The patient had lost her incisor and canine teeth in the upper jaw some ten years before.

Long Sleep from Sulfonal.—The case is related in the *Deutsche Medizinal Zeitung*, No. 35, 1889, of a workman who took a tablespoonful of sulfonal in order to get "a good sleep." At the end of half an hour, as he felt no effects from the drug, he took two tablespoonfuls more. He then went out for some beer; but had taken only about half a glass when he became so sleepy that he left the balance and went home to bed. This was on January 5th, and he knew nothing more until the forenoon of the 8th, when he was awakened by being violently shaken. He recognized the people about him, but fell asleep again almost immediately. On the 9th he was again awakened by his wife, and remained awake from one o'clock until eight. He then fell asleep again, after having eaten a hearty meal with relish, and slept until seven o'clock the next morning, when he got up and went to work, feeling very well and much refreshed after his sound slumber.

England and the Opium Trade.—It was recently moved in Parliament that, at the next revision of the Tientsin treaty, the Chinese Government be allowed to extinguish the opium trade if it thought fit. The resolution was, however, opposed by Dr. Farquharson, on the strange ground that the opium habit was not as bad as the alcohol habit, either in its effects upon the system or in its relation to crime; and on the strength of this flimsy argument the resolution was defeated by a vote of one hundred and sixty-five to eighty-eight. There are said to be twenty-five million opium-smokers in China, and the number of deaths directly attributable to the effects of this poison reaches one hundred thousand annually. When some thousands are drowned by floods in the Hoang Ho Valley, the world is shocked, but the fact that ten times as many people are sacrificed every year in consequence of the forced importation of opium into China moves the English merchant not a whit.

A Popular Belief in the Contagiousness of Phthisis.—In a paper on the contagiousness of pulmonary phthisis, read at the twenty-fifth anniversary meeting of the Caucasian Medical Society, Dr. Babayeff mentioned the curious fact that among the Georgians the name for consumption is "chlekki," meaning "the contagious disease." When one of their number is found to be suffering from this disease he is at once isolated, and is taken to a hut or tent at some distance from the village. The care of these patients is entrusted to an old woman who carries to them the necessary food and drink, and they are never allowed to associate with the well.

An Honest Admission.—"It is with the most profound consternation that I have to report these five cases of death, due without any doubt to the treatment employed by me," is the way that an honest writer in one of our foreign exchanges begins his article. It is often more instructive to read of others' errors than of their successes, and it is a praiseworthy undertaking for one to report his mistakes; but not many would have the courage to do so in such a blunt fashion.

Vaccination on the Leg.—A French practitioner, in the course of a large number of revaccinations, was struck with the fact that the operation was far more successful whan performed on the leg then when the arm was selected. He has since availed himself of an opportunity of verifying his first impression, and last year, having to revaccinate 177 school children, he chose the left leg in 99 and the left arm in 78, and carefully compared the results obtained, dividing them into three groups according as the eruption was typical, doubtful, or absent. Of the 99 cases vaccinated on the leg, 23 were typical, 31 doubtful, and 45 unsuccessful, being equivalent to a percentage of 23.2 and 31.3, respectively. Of the 78 children vaccinated on the arm, the numbers were 11 typical, 25 doubtful, and 42 failures, equal to 14.1 and 32 per cent., respectively. The percentage of failures was 45.45 on the leg, as compared with 53.84 on the arm.—*Medical Press and Circular.*

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## Original Articles.

### A NEW ANTISEPTIC DRESSING.

BEING AN ADDRESS DELIVERED BEFORE THE MEDICAL SOCIETY OF LONDON, NOVEMBER 4, 1889.

BY SIR JOSEPH LISTER, BART., F.R.S.,

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MR. PRESIDENT AND GENTLEMEN: When I last had the honor, five years ago, of addressing this Society, at the request of its President, I brought before you an attempt I had made to utilize the powerful antiseptic properties of corrosive sublimate without the great disadvantages attendant upon its highly irritating qualities. I had ascertained that when corrosive sublimate precipitates albumin, the precipitate is not, as had been generally supposed, an albuminate of mercury, that is to say, a combination of albumin as an acid with mercury as a base; in other words, that the albumin does not displace the chloride from its combination, but that the bichloride of mercury retains its properties intact, the albumin being loosely associated with it, in a species of solid solution, if I may so speak.

Further, I had found that this precipitate, even after drying, is capable of being dissolved in the serum of the blood, and that the solution in blood-serum is powerfully antiseptic, while not irritating. I proposed and brought before you a new dressing in the shape of what was termed the sero-sublimate gauze, charged with a solution of corrosive sublimate in the serum of the blood. This gauze gave very satisfactory results, both in my own hands and in those of surgeons in places so far distant as Poland and Spain. Nevertheless, it was not all that could be desired by any means; it was somewhat harsh mechanically; it was not very absorbent, a serious defect, and one of the materials of which it was made, the serum of horse's blood, was not always easily obtainable. I was, therefore, well disposed to look for something superior.

A few weeks after that communication was made to the Society, a firm of manufacturing chemists, Messrs. Gibbs, Cuxson & Co., wrote to me saying that they had found that if chloride of ammonium or sal-ammoniac in quantity equal to one-fifth part of the weight of the bichloride of mercury was added to the mixture of bichloride of mercury and blood-serum, the result was a much more fluid preparation than I had obtained. If I used a preparation of one part of bichloride of mercury to one hundred of blood serum, I got a thick liquid somewhat difficult to diffuse in gauze. They therefore suggested that by adding sal-ammoniac in that proportion I should get a much more workable arrangement. On consulting chemical works, I found that one-fifth of sal-ammoniac was exactly sufficient to produce, with bichloride of mercury, the salt long known to chemists as sal-alembroth, a double salt of bichloride of mercury and chloride of ammonium. I naturally wished to ascertain whether this addition of sal-ammoniac would impair or even destroy the antiseptic properties of the bichloride of mercury. I therefore made experiments on the point, and I found that the sal-ammoniac associated in the form of a double salt with the bichloride of mercury did not by any means impair its antiseptic properties; on the contrary, it improved them, so far, at least, as it concerned that which we have to deal with as surgeons, an albuminous fluid like the serum of the blood. Sal-alembroth and bichloride of mercury proved to be exactly equivalent, weight by weight as antiseptics in such a fluid. Each had to be used in normal serum of specific gravity of about 1.025 in the proportion of nearly $\frac{1}{1000}$, to prevent altogether the development of micro-organisms. Those who are acquainted with Koch's researches will consider this a very high proportion. Koch has shown that in a solution destitute of albumin, $\frac{1}{100000}$ part of bichloride of mercury is sufficient to prevent the development of organisms; but when we have albumin present in the solution, the case becomes altogether altered. Albumin interferes with the antiseptic action of corrosive sublimate, and thus in serum of the blood of specific gravity 1.025 we require, as I have already said, as large a proportion as about $\frac{1}{1000}$ instead of $\frac{1}{100000}$.

When the albumin is small in amount, less corrosive sublimate proves efficient. Thus in a case of spermatocele, where the specific gravity of the fluid was exceedingly low—only 1.007—I found that $\frac{1}{10000}$, just intermediate between the proportions required, blood-serum and water, was efficacious. On the other hand, when blood-corpuscles are mixed with the serum in the same amount as in the circulated blood, making the albuminoid substances much more abundant than in serum, we require proportionately more of the corrosive sublimate; at least 1 to 500 is required for the purpose of preventing development. This is a most important consideration after an operation. In the first twenty-four hours the discharge contains a large amount of blood-corpuscles as well as the serum, while, at the same time, it is the most copious, more copious than it will be in any subsequent day, provided all goes well aseptically. It is, therefore, an exceedingly serious consideration that in the first twenty-four hours we have a discharge which in both these respects tests our antiseptic more severely than it will ever be tested again, both from its abundance and from its quality. Still the sal-alembroth, whether used with blood-serum or with a normal mixture of serum and corpuscles, such as that obtained by whipping the blood of the ox so as to get rid of the fibrin, proved equivalent antiseptically to bichloride of mercury.

I may, perhaps, say in a few words how the experiments were conducted. For the purpose of ascertaining whether a given antiseptic can or cannot prevent development of organisms, a very simple mode of experimentation suffices. What we have to do is to ascertain whether it is *inhibitory;* not whether it is *germicidal.* The only special apparatus required for such experiments is a warm chamber, which can be kept pretty constantly about the temperature of the human blood. Beyond this a few stoppered bottles, with well fitting stoppers—perhaps half-ounce stoppered bottles—are really all that is required. Into a series of such bottles serum of the blood, to the amount, say, of one hundred and fifty grains, containing solutions of the antiseptic of different strengths is introduced. These are all inoculated by means of a small syringe pipette, with the same quantity, say $\frac{1}{16}$ of a minim of some potently septic liquid such as blood-serum in a state of advancing putrefaction. The bottles are placed in the incubator, and then, if development takes place, that is evidence that in the bottle in which it occurs such proportion of the antiseptic as that bottle contains is inadequate; if no development occurs we have proof of antiseptic efficacy. The transparency of the blood-serum

permits a recognition of the development of the organisms, which invariably causes opacity. If we have no change in this respect, if the serum maintains its transparency, at the same time keeping its odor unimpaired, and, further, if microscopic examination of any little sediment there may be shows that it contains no organisms, we have clear evidence that the antiseptic in the proportion concerned has proved efficacious.

Now, if the sal-alembroth was equivalent to the bichloride of mercury, weight for weight, that shows that the sal-alembroth was really more efficacious as regards the quantity of bichloride of mercury it contained. The bichloride of mercury having the sal-alembroth added to it, and also water in the double salt that is formed, is increased in atomic weight very considerably; and therefore if an equal weight of alembroth is equal in antiseptic action to bichloride of mercury, that shows that the bichloride of mercury is made more efficacious in the blood-serum by the addition of the chloride of ammonium. The chloride of ammonium in combination protects the bichloride of mercury, so to speak, to a certain extent, from the interfering influence of the albumin.

At the same time, the sal-alembroth proved much less irritating than bichloride of mercury. Experimenting on my own skin, I ascertained that it has certainly not half the irritating property of corrosive sublimate. The chloride of ammonium attached to the bichloride of mercury, while it protects the bichloride in some degree from the influence of albumin interfering with its antiseptic operation, prevents it also from acting so powerfully on the human skin. And thus the union of sal-ammoniac with corrosive sublimate had the double advantage of rendering it both more efficacious antiseptically and much less irritating.

Hence I was at first much pleased with sal-alembroth. But it soon appeared that there were certain disadvantages attending it. These depend very much upon its excessive solubility. It is essential for a satisfactory antiseptic dressing that the antiseptic should not be readily washed out of it by the discharge. Sal-alembroth is so exceedingly soluble that it is washed out with the greatest ease; thus we were always, even if we used large masses of sal-alembroth gauze, in fear that when the discharge was copious the antiseptic would disappear, say within the first twenty-four hours, and then the septic mischief would have an opportunity to enter. There was another disadvantage from this great solubility. When the discharge entered a mass of the sal-alembroth dressing it dissolved out the alembroth from it, passed into another part of the dressing, and there took up another portion of the sal-alembroth, and so went on from part to part of the dressing until, if the discharge was copious and the dressing large, as it must be when the discharge is copious, before the discharge got to the edge of such a dressing it became so concentrated a solution of the sal-alembroth as to be highly irritating. We have seen, for instance, after the removal of the mamma, when the first dressing is changed on the following day that there has been over the scapula and the neighborhood a huge blister. No doubt that was only a temporary inconvenience. We never had the discharge again so great as in the first twenty-four hours; but still it was a great inconvenience.

Such being the disadvantages of sal-alembroth dressing, I was disposed to seek for something better. I may say that I myself have never published anything in favor of sal-alembroth dressings; I have never been satisfied with them. It has leaked out that I have used them, and they have come into extensive employment, but never with my published sanction.

In the course of the following year I made various experiments in the hope of rendering sal-alembroth more useful in different ways, with which I need not trouble you, but without much success. In February, 1886, my attention was drawn by Mr. Martindale, of New Cavendish Street, to cyanide of mercury as possibly a valuable antiseptic, and, if so, having this advantage, that it did not coagulate albumin. I therefore proceeded to make experiments with cyanide of mercury, and I found indeed that in inhibitory power it was remarkably efficacious. I have said that with blood-serum sal-alembroth or bichloride of mercury is required in about $\frac{1}{100}$th part. I found that the cyanide of mercury kept blood-serum, with only $\frac{1}{1000}$th part, perfectly free from organic development, in spite of inoculation with potent septic fluid, for a month, when the experiment ended. I may remark that we have in cyanide of mercury a striking instance of the discordance that there may be between inhibitory power and germicidal power in an antiseptic. In inhibitory power the cyanide of mercury is, as we have seen, exceedingly high; but in germicidal power it turns out to be very low. Mr. Cheyne has made experiments for me, which have shown that even $\frac{1}{100}$th part in water is incapable of destroying the germs of bacteria. Still the inhibitory property of cyanide of mercury was a most important point if in other respects the salt were not disadvantageous; but, unfortunately, it proved to be so highly irritating that the greater irritating property of the cyanide of mercury more than counterbalanced its superior inhibitory power. It naturally occurred to me that the cyanide of mercury might perhaps combine cyanide with some other and form a double salt, having advantages corresponding with those presented by sal-alembroth as compared with bichloride of mercury. I tried the soluble double cyanide of mercury and potassium, but found it quite too irritating. I here again consulted Mr. Martindale, and he mentioned to me that in Watt's "Dictionary of Chemistry" it is stated that a double cyanide of mercury and zinc of very slight solubility may be formed by mixing together a solution of the double cyanide of mercury and potassium with a soluble salt of zinc, the zinc taking the place of the potassium. I therefore obtained some of this material, and proceeded to make experiments on it. I found, in the first place, that it was quite insoluble in water. This seemed at first extremely unpromising. It was soluble in about 150 parts of glycerine, but insoluble in water. I found, however, that it was soluble in about 3,000 parts of blood-serum, and therefore it was possible that it might work antiseptically. I made experiments to ascertain whether such was the case or not, and I found that this zinco-cyanide of mercury, as we may call it, had really most important antiseptic properties; that in the proportion of $\frac{1}{5000}$th part it kept blood-serum perfectly free from the development of organisms for eighteen days, in spite of potent septic inoculation.

I then tried experiments with serum and blood-corpuscles as presented in the whipped blood of the ox. On instituting comparative experiments between sal-alembroth, cyanide of mercury, and this double cyanide, I found that with the alembroth all proportions lower than $\frac{1}{400}$th putrefied within twenty-four hours after septic inoculation, while with the cyanide of mercury $\frac{1}{800}$th part sufficed to preserve the serum and corpuscles from putrefaction. At the same time, with the double cyanide I was much surprised and much pleased to find that $\frac{1}{1200}$th, half as little again, was sufficient to keep the mixture of serum and corpuscles permanently free from putrefaction. It may be said that the absence of putrefactive odor is but a rude test; there may be organisms developed without any putrefactive odor being present. That is perfectly true. At the same time, if in a given experiment we find that with one agent putrefaction occurs within twenty-four hours with $\frac{1}{400}$th part, while with another salt there is no putrefactive odor after the lapse of weeks with $\frac{1}{1200}$th part, we have pretty conclusive evidence that, so far as the mixture of corpuscles and serum is concerned, we have a more efficacious antiseptic in the latter. I therefore proceeded to prepare dressings of this new substance, diffusing it—for it is an exceedingly fine powder—in water with a little glycerine added to fix it, to prevent it from dusting out. If you simply diffuse it in water and pass gauze through it, with nothing more than the water, the result is

that you have gauze which, with the slightest touch, gives out the double cyanide in a cloud of dust, which produces not only inefficacy of your dressing by loss of the proper proportion of the substance, but becomes in the highest degree irritating to the nostrils of those who are near. A little glycerine, however, prevented the double cyanide from dusting out. I proceeded to try it in practice. I confess I did not dare to use it—considering its very slight solubility in serum—unmixed [redacted] I associated with it some of the very soluble cyanide of mercury; and with this cyanide gauze we tried various experiments in the way of dressing and got some admirable results. But then, on the other hand, there were disappointments. We found, for one thing, now and then very troublesome pustules as the result of a peculiar kind of irritation. Another disadvantage was that occasionally we got suppurations, coming on at a late period in the case, such as we had never been accustomed to with our carbolic dressings. A case might go on perfectly well for, say, ten days, and then suppuration might occur about a stitch track and spread perhaps farther; and sometimes the healing of cases was greatly protracted by this late suppuration. In consequence of these two circumstances, I gave up the use for the time being of this material.

I then directed my attention to biniodide of mercury, which has been highly spoken of for its antiseptic powers, and which has the advantage over alembroth of being comparatively little soluble either in water or in serum. I found that the iodide of mercury gauze answered our purpose very well so far as its antiseptic properties were concerned, but that it had the great disadvantage of producing irritation, which it was extremely difficult to control. In order to control it we interposed between the iodide of mercury gauze and the skin unprepared gauze, except in so far as it was steeped in a weak solution of bichloride of mercury (1 to 4,000). But we found that different skins differed greatly in liability to this irritation. The iodide of mercury, which is so very slightly soluble, as you know, in water, is much more soluble in serum, and the solution in blood-serum becomes irritating. In consequence of this, we had the same disadvantages from irritation as we had with the alembroth; and although, as in the case of the alembroth, this was only a transient inconvenience, I became dissatisfied with the iodide of mercury gauze. There was, however, one point of considerable interest, both theoretically and (as it turned out afterward) practically, which we found in this investigation with the iodide of mercury. If we simply charged with iodide of mercury, say from a solution in spirit of wine, and then applied the gauze so prepared, we found that the particles of iodide of mercury tended to gravitate down toward the skin, and there produce the most fearful irritation. It was absolutely necessary that it should be fixed. I tried various means, and among the rest a solution of starch, and then there came out this remarkable fact, that if a solution of starch is used with one of the ingredients employed for forming the biniodide of mercury by mixing a solution of iodide of potassium with solution of bichloride of mercury—if you dissolve the iodide of potassium in a weak solution of starch—the iodide of mercury thus formed in the nascent state associates itself with the starch particles in the most intimate manner and becomes entirely precipitated along with the iodide of mercury; so that if you take a drop of the red fluid formed by mixing these two solutions, and place it on a piece of calico, the watery material is absorbed by the calico and passes into the surrounding parts without coloring them, while the red spot with its insoluble iodide remains. If now you take a little iodine water, and apply it to the part of the calico moistened by the fluid that has exuded, you find that the iodine water produces no blue color of iodide of starch, showing that there is no starch in the fluid that thus oozes out and leaves the iodide of mercury behind; whereas, if you take a simple solution of starch and apply it as such to a piece of fabric, as far as the fabric becomes moistened so far do you get a blue color with the iodine. Here we have, as it seems to me, a somewhat analogous case to the so-called albuminate of mercury. We have the starch particles associated with the particles of iodide of mercury: the starch remains as such, the iodide of mercury remains as such; still they are attached to each other. And so the result was that when such a red solution produced by mixing these two liquids was used for charging gauze, the iodide of mercury was stuck to the gauze by means of the starch, and we had a most satisfactory arrangement in that respect. The iodide of mercury could not be washed out by water, nor did it in the least dust out. The value of this observation with reference to our present subject will appear shortly.

Being dissatisfied with the iodide of mercury, I turned my attention again to the double cyanide of mercury and zinc. Looking back to my notes, I found such evidence of its superior antiseptic properties that I felt that we had deserted this material too readily. In the interval we had had other experience of importance with the alembroth gauze. Occasional late suppurations had at first occurred under its use, just as was the case with the double cyanide gauze. These, however, had ceased to trouble us after my attention had been directed to the expediency of always using mercurial dressings in a moist condition. If they are used dry, the mercurial salt having no volatility, and having no power therefore of destroying any microorganism in contact with it, however obtained, whether derived from the manufactory or elsewhere, there could be no security that the dressing when applied was free from living organisms. This important object could, however, be infallibly attained if the dressing were used moist with an efficient germicidal solution. I put this idea into practice, and during the two years that have since elapsed, we have never on any single occasion had to complain of these late suppurations. Might not the same immunity attend our cyanide gauze if we adopted with it the same expedient?

The other objection to this double cyanide gauze had been the irritation which it occasioned. Might not this have been due to the simple cyanide, which, as I have said, I used along with the double cyanide? The simple cyanide is highly irritating, and, just as with the sal-alembroth, being freely soluble, it can be taken up by successive portions of discharge, and, when the discharge is free, may come to be in so strong a solution as to irritate. On the other hand, experiments on my own person had shown that the powder of the double cyanide might be kept applied to the skin for an indefinite time, whether moistened with water or with blood, without occasioning any irritation whatever. If this was really the explanation, and if the double cyanide could be trusted of itself, we might easily get rid of all irritation by using a double cyanide dressing moistened with a weak solution of bichloride, say 1 to 4,000, which, while it is securely germicidal, can never irritate. But here arose a new difficulty. I have told you that when we tried this double cyanide in a gauze at first, in order to prevent its dusting out, with its great inconveniences, we used glycerine: but if we moistened the gauze with 1 to 4,000 solution of corrosive sublimate, we should run great risk of washing out the glycerine, and then the double cyanide would be free to dust out on drying. And, besides that, it must be admitted that the glycerine arrangement was not a good one, independently of that consideration, inasmuch as when the discharges flowed into the gauze they would wash away the glycerine, and then the double cyanide might be washed out also, and so fail in one of the most important requisites of an efficient antiseptic dressing—the storage of the antiseptic in the dressing in spite of the discharge. How was this difficulty to be overcome?

Now came to our aid our experience with the iodide of mercury and the starch. Might it be that the particles of the double cyanide might attract starch as those of the iodide had done? It did not seem very likely, seeing that cyanogen is not known to have the special affinity

for starch that iodine has. Still, I thought I would try the experiment. I prepared the double cyanide by mixing a solution of the double cyanide of mercury and potassium with a solution of sulphate of zinc. I tried this with one of the ingredients, dissolved in a starchy solution; and, to my great satisfaction, I found that the precipitated double cyanide left a supernatant liquor almost absolutely free from starch, and that the particles which thus fell, the double cyanide with the starch associated, fixed themselves to a gauze in such a way that it did not in the least dust when dry. Not only so, but immediately after being charged with the precipitate diffused in water it might be washed in the wet state without the double cyanide being washed out of it, so closely did the starchy particles stick the double cyanide to the fabric. It is of great importance that in some way or other the double cyanide should be washed, because at the same time that an insoluble double cyanide is formed there are produced other double cyanides which are soluble and which are in the highest degree irritating; they must be washed out.

Well, I thought I had thus attained my object, and that by mixing starch with one of the two solutions necessary for forming this double cyanide and allowing the precipitate to form, pouring in more water, and, after precipitation, decanting and repeating the process another time, so as to get rid of all the irritating soluble salts, and then diffusing the precipitate through a gauze, I should have all that I desired. But when I tried to get this done by a manufacturer I found that I got blundering after blundering in such a way as to make the thing practically hopeless. There was nothing for it but in some way or other to get the double cyanide from the chemist as a definite article, and then in some way devise a means of fixing that powder of the double cyanide to the fabric. I therefore naturally tried whether a solution of starch would answer this purpose, whether the starchy particles would associate themselves with the double cyanide particles, not only in the nascent state, which we had before tried, but also when the already formed double cyanide was mixed with the starchy solution. I found that it did so; that when a starchy solution was stirred up with the double cyanide in the proportion of one part of starch to two of cyanide, the starch was almost all precipitated, and the precipitate so formed adhered to the gauze in the most satisfactory manner.

But though its adhesion was satisfactory enough, it turned out that the precipitate thus formed aggregated into a tenacious mass, which could not be diffused uniformly through the gauze, and here I was again at fault. This difficulty was overcome by first charging the gauze with the double cyanide powder diffused in water, and then transferring it to a starchy bath. This at once fixed the cyanide in the gauze; and whereas, before it was placed in the starchy bath the slightest squeeze made a milky fluid exude, no sooner had it been well penetrated by the starchy liquid than you might squeeze it as you pleased and nothing came out but a clear fluid. I was much pleased with this, and it is in this way that I have prepared the gauze that I have used for the last twelve months, both in the hospital and in private practice. Still, this method had its disadvantages. When the gauze had been passed through the fluid in which the double cyanide had been diffused without any starch, it required very tender handling. If you gave it a squeeze, out came a quantity of double cyanide; and it was plain that, although one might do it oneself satisfactorily, if we trusted to the manufacturers there would be an utter uncertainty as to what quantity of material might ultimately remain in the gauze.

Only lately has this difficulty been overcome. It occurred to me that perhaps if the starch were first blended with the double cyanide, and then dried and reduced to powder, if water were afterward added to this dried dissolved starch associated with the cyanide, there might not be the same tendency to lumpiness and difficulty of diffusion. I found that the process did not answer quite as I hoped in the first instance, in this respect, that the dried starch and double cyanide were extremely difficult to scrape off from any plate on which they were put to dry, and also very difficult to pound up and to diffuse for charging the gauze. But I got rid of these inconveniences by means of sulphate of potash, used for the same reason as in the preparation of Dover's powder—an inert substance, but with sharp, gritty particles. Mixing a pretty strong solution of starch with the double cyanide powder, and adding to this a quantity of pounded sulphate of potash, the result is that you get a material which, after drying, is easily scraped off by the manufacturer and easily reduced by him to an impalpable powder, which is then readily diffused in water, and makes a perfectly uniform gauze; being mixed in large quantity with water in order to charge the gauze, the sulphate of potash is practically got rid of, and if any of it remains it does not harm, because it is inert. Thus we have the means of easily charging the fabrics with this double cyanide.

I have spoken of diffusing this preparation in water, but in reality we employ for this purpose the 1 to 4,000 solution of bichloride of mercury, which fortunately does not in any way interfere with the process. I may remark that the double cyanide, like the simple cyanide of mercury, though very efficient as an inhibitor, cannot be trusted as a germicide. There are different ways in which absorbent gauze such as this may be charged. One is to pass it folded in about sixteen layers through a trough, such as the one before me, which I have myself used, having a bar near the bottom to insure the gauze being kept well under the liquid. It is then, as soon as you please, squeezed to press out superfluous liquid, and then, if wanted for immediate use, a simple way is to place the masses of gauze—say, six-yard pieces—in a folded sheet, turn the folded sheet over them, and roll it up. The folded sheet then absorbs the still redundant liquid, and you have moist gauze ready for use in five minutes. For the use of the ordinary surgeon it will probably be best to have the gauze dried, on the understanding that it is again moistened with 1 to 4,000 sublimate solution before being used. Here is a sample of the gauze in the dry state, which you see does not give off dust when freely handled.

Other articles may be charged as well as gauze with this substance. The double cyanide being perfectly unirritating in its own substance, it is no objection to having an excess of it. If you take, therefore, some of the preparation and stir it up with water, so as to produce opaque liquid, and put linen rags into it, and then place them in a folded towel to take out the excess of liquid. you have your dressing ready prepared for you then and there. It can thus be very easily worked on an emergency.

We have seen that the double cyanide requires about three thousand parts of blood-serum to dissolve it. If, therefore, it is present in a gauze in the proportion of about three per cent., you will easily understand that blood-serum may soak through such a gauze time after time without washing the ingredient all out; so that it is a material which is admirably stored up in the dressing. That is one of its three great advantages, the others being that while trustworthy as an antiseptic it is completely unirritating. In actual practice the few layers placed next to the wound are washed in a solution of carbolic acid; this washes out the corrosive sublimate which, though present in small amount, might irritate the wound to some extent. The carbolic acid soon flies off, and there is left in the application next the wound merely the unirritating double cyanide, and under this we find that not only do wounds, the edges of which are brought accurately together, unite beautifully by first intention, but even granulating sores heal by the gradual process of cicatrization from the edges—heal by scabbing in a way that we have never seen under any other dressing.

Having satisfied myself that this was really a useful material, I proceeded to request a manufacturing chemist

to provide it for me on a large scale. Messrs. Morson & Son, of Southampton Row, kindly undertook to do this, and I have to thank them for the great pains they have taken in carrying out experiments on this subject at my suggestion. Their manager, Mr. Taubman, soon informed me that in his opinion there was exceedingly little mercury in this so-called double cyanide of mercury and zinc. Very little mercury could be got from it on testing in comparison with what would be obtained if it were a true double salt. He asked if I was sure that the cyanide of zinc was not after all the thing that was efficacious? Was the idea of the double cyanide altogether a delusion? I need not say how much pleased I should have been if such had been the case—if we could have had the cyanide of zinc without any poisonous mercury in it as an antiseptic. The cyanide of zinc was a perfectly definite compound, there could be no mistake about it. I proceeded to make experiments, and I found, indeed, that cyanide of zinc has antiseptic properties. I made, for instance, experiments of this kind—I took a piece of glass tube like that which I hold in my hand, and packed it with gauze charged with cyanide of zinc only, and then, holding it vertically, poured serum of horse's blood into it till the gauze was fully moistened; and then poured more in, till a quantity dropped out from the lower end equal to that which had produced saturation, the gauze being thus thoroughly washed with the serum.

I then inoculated the top of the gauze with a potent septic drop. I had another such tube with gauze that had no cyanide of zinc in it, and I inoculated that in the same way. I then put each into a well-fitting stoppered bottle, so as to prevent any evaporation, and placed them in the incubator. At the end of four days I opened the two bottles. That which contained the gauze without the cyanide of zinc stank, and, on taking portions of the gauze from either one end or the other, squeezing them, and examining under the microscope the fluid that escaped, there were seen teeming multitudes of bacteria of various sorts. The bottle with the cyanide of zinc, on the other hand, had a pure odor of hydrocyanic acid, which this gauze always has. I then examined drops squeezed from both ends, and I found no bacteria in the clear serum that was pressed out, not only from the lower end, but even from the upper end, in the immediate vicinity of the inoculating drop, and where the gauze had been drenched repeatedly with the serum.

Now that, so far, is a result such as no other antiseptic had ever given me. Take iodide of mercury, for example. Comparatively insoluble as it is, if you pour blood serum upon it in such profusion you wash the iodide of mercury out, and if you inoculate septically the part so washed you induce bacteric development. The test applied was, of course, an extremely severe one. In actual surgical practice the discharge which pours into the dressing is pure to begin with, supposing the wound to be aseptic at the outset. The septic agency only acts upon the dressing from without, and in a far milder form than here, where a potent septic drop was used. Thus we had clear evidence that the cyanide of zinc really is an antiseptic. On the other hand, it turned out to be not so powerful antiseptically as our double cyanide so-called. In order to compare the two salts I made another experiment similar to that last described. I packed three pieces of glass tube with gauze in two inches of their length, one of the gauzes being charged with cyanide of zinc, another with the so-called double cyanide (neither of these gauzes having been treated with solution of bichloride of mercury), while the third gauze was unprepared. Serum of horse's blood was poured into the upper end of each vertically-held tube till it thoroughly soaked the mass of gauze, after which each gauze was inoculated septically at the centre of its upper end. The tubes were then placed vertically in stoppered bottles in the incubator. It happened that in the septic liquid used for the inoculation that I used there was, among other organisms, a species of streptococcus which had a remarkable power of producing an acid fermentation in blood-serum. After four days I proceeded to examine the contents of the three tubes. In the unprepared gauze there was utter putrefaction; in the gauze prepared with cyanide of zinc only no putrefaction had taken place, but acid fermentation had occurred. Both at the upper and lower end of the gauze litmus paper was reddened on application to the serum. In the putrid gauze turmeric paper was most intensely reddened, much more so than by normal blood-serum, an alkaline fermentation having occurred there. On the other hand, with the gauze that contained the double cyanide, with mercury as well as zinc, both at the upper and at the lower end the turmeric paper was reddened exactly as it was by the normal blood-serum. This state of things continued the next day; but on the following day, six days after the commencement of the experiment, I found that at the upper end, in the vicinity of the inoculated spot, this gauze purpled litmus, while at the lower end it still reddened turmeric. At the end of seven days the same condition persisted. After eight days, however, both the upper and lower end of the gauze purpled litmus. This peculiar septic organism, with the power of producing acid fermentation in serum, had gradually worked its way, in spite even of the cyanide of zinc and mercury; but the cyanide of zinc and mercury, you observe, had been much more efficacious than the cyanide of zinc alone. The cyanide of zinc had prevented the development of organisms that produced putrefaction, and only permitted the growth of the coccus that produced acid fermentation. Cyanide of zinc and mercury had for several days prevented all development. This was proof, therefore, that the mercurial element in our compound was valuable, and that we could not dispense with it.

It may be thought an unsatisfactory thing that there should have been any organism able to work its way thus through a gauze charged with our antiseptic. But I may remark, in the first place, that we tested the material exceedingly severely with our potent inoculation; in the second place, that it was a long while before the organism penetrated the gauze even for a short distance; and, in the third place, that penetration of micro-organisms through such a dressing into wounds does not seem to occur in practice, seeing that in the year during which I have used this antiseptic in my surgical work at King's College Hospital we have had no single instance in which we have had any reason to suspect septic change in the deeper parts of our dressing; we have had no instance in which deep-seated suppuration has occurred in an operation wound made through unbroken integument. If we have had any pus at all in such cases, it has been from the surfaces exposed between stitches or at situations where drainage-tubes have been inserted, and what I have termed antiseptic suppuration has shown itself, and even this in very slight degree. Such being the case, I feel not only permitted but bound to bring this material under the notice of my professional brethren.

As to the composition of this so-called double salt, it is for the present uncertain. This much is already established: that the cyanide of mercury is in very much smaller proportion to the cyanide of zinc than Watts' "Chemistry" would lead us to expect the double salt would give. But what the precise composition of the salt is we do not yet know. I am having it investigated by the Pharmaceutical Society, who have kindly undertaken the work.

There is another use for this material besides the charging of dressings. The powder, moistened with a weak solution of corrosive sublimate, may be rubbed into hairy parts, when it will convert the hairs into an antiseptic dressing. Not long ago a medical friend of mine brought his wife to me with no less than seven sebaceous cysts in the scalp, requesting me to remove them. Having washed the hair with a 1 to 20 carbolic-acid solution, I simply passed a comb over each tumor in the line where I was about to transfix, without shaving at all; and, after taking out the cysts, rubbed some of the moistened powder

into the hair in the vicinity. I then applied a dressing of cyanide gauze, and I was glad to learn that all the seven wounds had healed without disturbance.

We have now in the hospital a case of psoas abscess, shown to be of spinal origin, not only by the history of the case and the symptoms, but by the discharge of a portion of both with the pus. That case is pursuing a course which, allow me to say, psoas abscesses will pursue in the great majority of cases, if the surgeon uses a trustworthy antiseptic, and takes the same pains with dressing to the last as at the outset; that is, he will find his trouble rewarded by the complete cure of these formerly incurable cases. I say this because I grieve to think that these psoas and lumbar abscesses still seem to be regarded as hopeless affairs by many surgeons. In this man's case the temperature has never been affected in the least; he has put on flesh rapidly; the discharge, after the purulent and curdy matter that existed originally in the abscess was got rid of, has been of serous character, and is in small and diminishing quantity. But the opening made for the discharge is in the vicinity of the pubes, and the pubic hairs used, under such circumstances, to be a constant source of anxiety to us unless frequently shaved away. Here we rub in at each dressing a little of the moistened cyanide, and convert the hairs into an antiseptic application.

I will not at present enter into the details of the preparation of this material; these will be supplied in a note on a future occasion.[1]

The sketch which I have given you of this investigation, though it has, I fear, wearied you, conveys but a small idea of the toil it has involved. There are those who still believe that the use of antiseptic substances in surgical practice is always useless, if not injurious. The germ-theory of septic diseases is indeed now happily established incontrovertibly. All now admit that septic mischief in our wounds depends upon the development of micro-organisms in them derived from without. But the gentlemen to whom I refer are, more or less logically, disposed to trust everything to the antiseptic powers of human tissues.

I believe I happened to be the first to direct attention to the antiseptic agency of living structures, and there is perhaps no one who attaches greater importance to it than I do. Without it surgery in former days would have been absolutely impossible. Still I know too well from experience that it cannot always be trusted, and that the use of antiseptic adjutants is in the highest degree important. And I have the satisfaction of knowing that there is among you a constantly increasing number who, when they have operated on an unbroken skin, with a fair field around for the application of their dressings, if they see septic inflammation occurring in the wound with its attendant dangers, know that it is their fault or the fault of the antiseptic appliances at their disposal. To those among you who are impressed with this conviction I offer the dressing which I have described as the most satisfactory that I have hitherto met with; and I venture to hope that you will regard it as a not unacceptable addition to your resources.

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"The Medical Mirror" is the name of a new journal which is announced to appear in January next. It will be issued monthly under the editorship of Dr. I. N. Love, and its place of publication will be St. Louis, Mo. Dr. Love's reputation as a medical journalist is sufficient to insure a hearty welcome to his new venture.

The Status of Cocaine in Surgery.—In the report of Dr. Wyeth's paper with this title read before the Virginia Medical Society, the strength of the solution, as given in the report, was one drachm to the ounce, and was said to approximate a four per cent. solution. The formula should have been: Cocaine muriate, gr. xx.; boric acid, gr. iij.; distilled water, 1 ounce.

[1] This note will appear in our next issue.

## FRACTURES OF THE BASE OF THE SKULL.

By FREDERIC S. DENNIS, M.D.,

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Mr. Chairman and Gentlemen: In thinking over a topic upon which to address the Surgical Section of the Academy this evening, it occurred to me that a subject embracing certain injuries of the head might not be inappropriate. I shall, therefore, invite your attention to this surgical lesion, because it is one of very great importance, and also because the special consideration of it has not hitherto engaged the attention of the Section. There seems to have been of late a tendency, or a fashion, among surgeons to consider the new operations *only*, and a trite subject like fracture of the base of the skull has not received its share in the surgical discussions of the day. The time has come when surgeons should direct their attention toward modifying and improving some of the olden methods of treatment, and not be carried away entirely with the technique of some modern operations.

Fracture of the base of the skull has been one of those injuries which the surgeon has treated purely upon the expectant plan, and with the conviction that death is sure to follow. This view of the lesion has been entertained for years by hospital surgeons, and there is certainly a consensus of opinion among surgical writers in regard to the prognosis in this injury. All the standard text-books and monographs are in accord in reference to the mortality. During the past few years my attention has been especially directed to a study of these cases of basilar fracture, and I shall endeavor to demonstrate this evening that fractures of the base of the skull are amenable to surgical treatment. I shall also endeavor to point out the clinical fact that the great majority of these cases die from causes which can be wholly prevented by the surgeon. There has been but little encouragement to the medical man to attempt any treatment in these cases of basilar fracture, when one reads, as he may, in the latest edition of a large standard work on surgery, "that any treatment directed to the lesion itself is out of the question." I trust that I can demonstrate this evening the incorrectness of this view, which represents the opinions of most surgical authors.

Fractures of the base of the skull may be situated in any of the three fossæ of the cranium. They may be divided into three varieties:

1. Where the fracture involves the anterior fossa, the roof of the orbit, or the nasal cavity.

2. Where the fracture involves the middle and posterior fossæ.

3. Where the fracture involves the posterior fossa.

The first variety is seen in falls upon the forehead, or by an umbrella or cane thrust through the roof of the orbit.

The second and third varieties, where forces act from below, as a fall from a height where the patient strikes upon the tuberosities of the ischium or upon the vertex of the skull.

The *signs and symptoms* of fracture of the base of the skull slightly vary according to the seat of the injury. There are, however, three signs and symptoms that are nearly always present. These are, 1st, hemorrhage; 2d, escape of cerebro-spinal fluid; 3d, coma. There is no value to be attached to any one of the three; but when they are found together, the diagnosis is certain. In regard to hemorrhage, the source of it is most important to consider. If the anterior fossa is the seat of fracture, the bleeding occurs from the nose or from the mouth, and usually there is subconjunctival ecchymosis; if the middle and posterior fossæ are involved, the hemorrhage is from the ear and occasionally from the nose. It must be noted that, in cases of non-rupture of the membrana tym

[1] Read before the Surgical Section of the New York Academy of Medicine, November 11, 1889.

pani, the blood may escape into the nose and pharynx and enter the stomach. Hemorrhage in such a case may exist, but there are no external evidences of it. The first intimation that the surgeon has of the existence of hemorrhage is hæmatemesis. Absence, then, of hemorrhage from the ear or nose is not conclusive evidence of the non-existence of a basilar fracture. On the other hand, the presence of bleeding alone from the ear is not in itself a diagnostic sign of any value as indicative of fracture of the base. At one time I collected sixteen cases of hemorrhage from the ear, in no one of which did a fracture of the base of the skull exist, and in all of the cases recovery took place. The late Dr. Loring was kind enough to go with me, and he made some interesting observations upon this point at the time. The blood, in some of these cases, came from a lacerated membrana tympani, and in other cases from a wound of the soft tissues in the canal. When the hemorrhage occurs in basilar fracture the source of it must be from the petrous portion of the temporal bone, from the internal carotid, or from the lateral sinus. If from the last two named sources, the cases terminate fatally. Extravasation of blood near the mastoid process, or in the suboccipital region, is significant when there is no external bruise to account for the ecchymosis. The difference between a black eye and subocular extravasation must be made. In the orbital extravasation due to fracture in the anterior fossa the blood is behind the conjunctiva, and is greatest in amount in the posterior part of the orbit. This variety of ecchymosis usually appears suddenly, and if it does it is strongly in favor of fracture of the base. The black-eye ecchymosis is chiefly in the lid or in the connective areolar tissue just beneath the orbital ridge. The ecchymosis is not present immediately after the injury, but comes on any time from a few hours to a few days.

The *second* sign is the escape of cerebro-spinal fluid. This is a valuable diagnostic sign. The fluid escapes by a transverse fissure in the petrous portion of the temporal bone, and through a tear in the arachnoid membrane that surrounds the auditory nerve. The fluid may even escape from the nose in fracture of the anterior fossa. This I have seen also in cases of fracture in the middle and posterior fossæ where the membrana tympani was not ruptured and the fluid was directed through the Eustachian tube. In another case the cerebro-spinal fluid emerged from the mouth; but this is exceedingly rare. The cerebro-spinal fluid comes from the ears in considerable quantity, and the discharge continues for many days. If the fluid is examined, it is found to be nearly all water with a specific gravity of about 1.002, and holding in solution a large quantity of chloride of sodium, little or no albumin, but a trace of sugar. Saliva has been mistaken for the cerebro-spinal fluid. This has happened in cases where the condyle of the lower jaw has fractured the meatus, and under these circumstances saliva may escape into the canal. The small amount of the fluid and its composition enables the surgeon to distinguish it. It was formerly supposed that the liquor Cotunnii from the internal ear supplied this watery discharge, and by some the discharge was thought to be filtered serum. Both of these views have been proved to be incorrect. The cerebro-spinal fluid has been seen associated with the escape of slight shreds and minute particles of brain-substance. This complication makes the diagnosis absolute.

Deafness is a condition dependent upon the escape of the cerebro-spinal fluid, and is probably caused either by pressure on the nerve from hemorrhage, or else by laceration of the nerve, although at the time the patient is not usually in a state of mind for this symptom to be of any value.

*Coma* is present in a greater or less degree, according to the severity and situation of the fracture. There is nothing peculiar in this symptom in basilar fracture, except perhaps that the coma is associated with more jactitation and restlessness than in coma the result of cerebral hemorrhage. The paralysis is connected with the cranial nerves rather than those which are affected in hemiplegia. The local cranial nerve affections are usually obscured by the coma. A study of the functions and movements of each cranial nerve in fracture of the base is very difficult during the existence of coma; but a careful study of the physiological action of each cranial nerve will reveal approximately the extent to which the lesion affects the origin of that nerve. It is thus, by collective evidence, that knowledge can be acquired as to the extent to which the brain has been injured in connection with fractures of the base of the skull.

With a view to simplifying the general subject of basilar fractures, I shall advance two propositions, and shall attempt to prove the correctness of these propositions.

1. That fractures of the base of the skull should be considered in the same category as compound fractures of the vertex of the skull or of the long bones.

2. That since fractures of the base of the skull possess the same essential characteristics as other compound fractures, they should therefore be treated by the same exact principles of aseptic surgery.

In regard to the first proposition, that a fracture of the base of the skull should be considered in the same category as compound fractures of the vertex of the skull, and the long bones. Some surgeons may dissent. It is evident, however, that every compound fracture has air admitted to the seat of the fracture, and this is the case in reference to fractures of the base of the skull. If the anterior fossa is the seat of lesion, air gains entrance through the nasal cavities. If the middle and posterior fossæ are involved, then air gains access to the seat of fracture either by the external auditory meatus, or by the Eustachian tube through the pharynx and nasal cavity.

The entrance of air to the seat of fracture, which is a *sine qua non* for the existence of a compound fracture, is not the only point that basilar fractures possess in common with all other compound fractures. The basilar fracture is associated with hemorrhage, with laceration of nerves, with venous thrombosis, with septic phlebitis, with fat-embolism, with cerebro-spinal shock, with pyæmia—in fact, with all the complications that arise in other compound fractures. The visceral lesion is not confined to basilar fractures, because it occurs in fractures of the vertex. It is thus evident that fractures of the base do not differ in any essential particular. The view may be even advanced that the local lesions in vertex fractures may be more severe than basilar fractures, because in the latter variety the cerebro-spinal fluid in a measure protects the brain from direct violence and lessens the shock.

I trust that I have made conclusive the points involved in the first proposition. And now, as to the second proposition advanced, viz., that since fractures of the base of the skull possess the same essential characteristics as other compound fractures, these fractures should be treated according to the same exact principles of aseptic surgery.

A discussion of this second proposition naturally brings us at once to a consideration of the treatment of compound fractures in general.

It is wholly unnecessary in this paper to refer to the management of compound fractures. All surgeons are agreed upon the following principles: Antiseptic cleansing of the wound, immediate immobilization, proper drainage, and permanent fixation. It remains to be shown that these same principles can be applied in fractures of the base. The technique is simple. Every patient suffering from fracture of the base, if the immediate shock is not too profound, should be removed to the operating-room if a hospital patient, or to a room especially prepared if in private practice. I have always insisted upon this point, because the hospital ward is not the place to dress a compound fracture. The risks of suppuration are too great to expose such a wound to the air of an ordinary surgical ward. Every outside preparation having been made to make the toilet aseptic, the head should be held firmly and the entire scalp shaved, after which it should be thoroughly washed with soap and water, and then irri-

gated with a 1 to 500 bichloride of mercury solution. Attention should next be directed to the irrigation of the external auditory canal and the nasal cavities. Both of these should be rendered thoroughly aseptic, after which the ears should be packed with iodoform or bichloride gauze and some absorbent cotton plugs placed in the nose. The air can filter through cotton, but micro-organisms cannot pass through it. In irrigating the nasal fossæ the surgeon must exercise great care, lest the fluid enter the stomach and produce toxic effects. There remains now only one other possible channel of infection to the seat of fracture, and that is the Eustachian tube. This may carry sepsis to the interior of the cranial cavity in a fracture of the base. The arrangement of the ciliæ in the tube is such as to propel air and mucus toward the nasal cavity; but during the act of deglutition the current may be reversed and infection thus reach the base of the brain. In the ordinary form of fracture of the base, where the membrana tympani is ruptured, the discharges make their exit through the auditory canal. In the exceptional cases where the membrane is not ruptured, the blood, serum, and cerebro-spinal fluid find their way into the nasal cavity and the pharynx, and thus these cases are most exposed to sepsis. If the unruptured membrana tympani is examined in a basilar fracture, the membrane will be puffed out on account of the presence of fluid behind it, and the membrane will have lost its natural lustre. These are the circumstances under which it may be wise to puncture the membrana tympani, and thus allow the blood and the cerebro-spinal fluid to escape through the external auditory canal. The diversion of the discharge from the Eustachian tube into the ear makes it possible to keep the fluids permanently aseptic. Having now rendered the head and all the avenues of approach to the intracranial cavity aseptic, it remains to apply a dressing that will keep these parts permanently free from any source of infection. This object is best accomplished by the use of a cap made of wet loose bichloride gauze or carbolized wool, over which absorbent cotton should be placed and a bandage applied. The cap should completely surround the entire head, cover in the ears, and protect every channel leading down to, and communicating with, the seat of fracture, and the cerebral viscera from the entrance of septic germs. This same dressing should be made from time to time during the repair of the fracture, and under the same strict and rigid rules of antiseptic surgery. The head should be held firmly by some dressing described in monographs upon bandaging under the name of the martingale dressing. This insures fixation to the head, and keeps the fracture as quiet as possible during the repair.

The reasons for dressing fractures of the base of the skull with a scrupulous attention to the minutest detail in antiseptic surgery are at once obvious. If a patient survives the immediate shock of the fracture and lives twenty four hours, he is almost certain to die shortly after from causes which can be directly attributed to sepsis. Among these causes may be mentioned basilar meningitis, cerebral abscess, pyæmia, suppuration in petrous portion of temporal bone, septic phlebitis, encephalitis, lepto-meningitis, and other complications due to infection.

If the surrounding parts and the discharges can be kept aseptic, then sepsis cannot occur, and this removes at once all the causes of death due to this agent. I do not pretend to state that it is impossible for a patient with fracture of the base to die except from a cause due to sepsis; but I do state that nearly all these cases terminate fatally from causes which are due to sepsis. A reference to statistics will demonstrate that deaths occurring in fractures of the base of the skull independent of sepsis are extremely rare, and that nearly all these cases die from causes that can be prevented by the surgeon. There is nothing original in this plan of treatment except that it is a report of my cases in which an application of antiseptic surgery has been made to a new class of fractures.

I would even go further, and recommend that all cases of head-injury associated with hemorrhage from the ear or from the nose be treated with antiseptic precautions. I have seen many cases where there was no reason to believe that a fracture of the base of the skull existed—and, in fact, it did not exist—but where a hemorrhage occurred from the ear or nose, and in the course of ten days a meningitis developed and the patient died. Every practical surgeon can recall cases such as I have mentioned, and I believe that the meningitis in these cases had its origin in the septic contamination of the hemorrhagic or other discharges.

The old and good rule in surgery, "never to look lightly on any injury of the head, however trifling it may appear," is one that, if observed to the letter, may be a means of saving a life where otherwise that life might be sacrificed.

With a view to making a practical demonstration of the principles involved in the management of these cases of fracture of the base of the skull, I have requested a patient who received a fracture of this kind, and who has since recovered, to come here this evening.

During the past few years I have had in my hospital experience a large number of fractures of the base of the skull. Most of these cases died from shock within twenty-four hours, but there are six patients who have recovered from this injury under the plan of treatment that has been suggested. I will briefly read the history of the case here this evening, and then present the patient to the Section for examination.

Albert James D——, aged twenty-five, admitted to the Harlem Hospital, December 8, 1888. Patient fell from top of a freight-car, striking his skull upon the rail. The ambulance surgeon found him insensible. There was hemorrhage from the nose, both ears, and from the mouth, and post-conjunctival ecchymosis of left eye. Left temporal region severely contused. Pupils dilated, breathing stertorous; pulse, 75 and strong; temperature, 98° F. Associated with the head-lesion was sprain of left knee-joint. Patient was very restless and at times very noisy. The following day was tied in bed and was wildly delirious. From both ears there was a discharge of a white fluid which upon examination was proved to be cerebro-spinal fluid. A few days after the accident he suffered from a severe glossitis which, with œdema, threatened his life. The glossitis was the result of injury to the posterior end of third frontal convolution and contiguous part of ascending frontal. For the following fourteen days from the receipt of the fracture of the base, there was a discharge of cerebro-spinal fluid from both ears. Magendie's solution, bromide of potash, and other sedatives were used. The patient was kept for some time in a straight jacket on account of the traumatic delirium. It is an interesting clinical fact that the patient now is oblivious to the accident, and he has no recollection of the time he spent in the hospital until he began to recover. This is certainly a test-case for any plan of treatment, for there was cerebro-spinal fluid escaping for two weeks, during which time the surrounding parts and the discharges were kept aseptic.

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THE STAINING OF GONOCOCCI.—Dr. J. Schütz, of Frankfort, gives a method of coloring gonococci that may prove useful. The method is founded on the known resistance to acetic acid possessed by the gonococcus after staining with methyl blue. After the cover-glass is covered and spread with a thin film of the suspected substance, it is passed three times through a flame. It is then allowed to remain from five to ten minutes in a saturated solution of methyl blue in five per cent. carbolic water. It is then to be washed in water. It is then for one moment, or as long as 1, 2, 3 can be counted, to be dipped in acetic-acid water (acid. acet. dil., ♏ v.; aq., 20 c.c.), and immediately washed off in water. As the acetic acid solution decolorizes all other organisms more rapidly than the gonococcus, all except these will have lost their color while they remain distinctly blue.—*The Medical Press.*

## A CASE OF SARCOMA OF THE DURA MATER—LIGATURE OF THE LONGITUDINAL SINUS.[1]

BY FREDERIC KAMMERER, M.D.,

NEW YORK.

THE patient whose history I desire to relate this evening was a man sixty-eight years of age. Three weeks before his admission to the German Hospital he noticed a small tumor on the occiput. This had been incised a few days previous, but further interference was wisely deferred, when it was noticed that the swelling showed faint pulsations. The swelling was situated exactly in the median line, apparently at the upper angle of the occipital bone, was of the size of a walnut, and projected only slightly over the level of the skull. Its size was not diminished by pressure. The patient presented no symptoms of a general or local character referable to the brain. There was no history of syphilis. As the microscopical examination showed the growth to be a round-cell sarcoma, and as the lack of cerebral symptoms made it probable that the growth had developed to no great extent within the cranial cavity, the diagnosis of a periosteal sarcoma was made, and an attempt to remove the same was deemed justifiable. I accordingly circumcised the tumor, about half an inch from its border, down to the bone and chiselled off a corresponding part of the skull, laying bare the dura and the attachment of the growth to it immediately over the longitudinal sinus. The opening in the skull, which was larger internally than externally, the firm adherence of the growth to the dura mater, coupled with the knowledge that sarcomata developing from the dura on the convex surface of the brain have rather a tendency to immediate perforation of the skull, now made it evident that we had here to deal with a sarcoma starting from the dura itself. The greater part of the growth was readily removed, but its base, about the size of a silver quarter, was firmly implanted on the longitudinal sinus. As the removal of the entire mass would have necessitated the excision of the superior wall of the sinus, and as the extreme thickness of the skull suggested even at this time the possibility of a mistaken diagnosis, I decided to interrupt the operation and to put the patient on large doses of iodide of potassium. This was continued for several weeks, with the result that new tumor-masses rapidly filled up the opening in the bone. During this time I had, on several occasions, attempted to dissect the dura of the longitudinal sinus into two layers in the cadaver without opening the sinus itself, but had very imperfectly succeeded. At all events, I had received no encouragement to attempt this in the living. Three weeks later I operated a second time. As a preliminary step, the further removal of a ring of bone, to again expose such parts of the dura as were sound, became necessary. I then incised the dura on the left side and elevated it toward the middle line. This was easily accomplished at the superior margin of the growth, but at its inferior border, near the torcular Herophili, very free venous hemorrhage occurred on attempting to prolong the incisions through the dura. I now tried to approach the falx cerebri from the right side, as I had done from the left, my intention being to ligate the sinus and to raise the tumor, cutting through the falx toward the confluence of the sinuses. Unfortunately, the longitudinal sinus did not lie in what I had calculated to be the median line, but more to the right. Several attempts to get beyond it were unsuccessful, even after removal of some more bone. The patient was now in such a state of collapse that I was compelled to abandon the operation immediately. I returned the flap of dura on the left side, and, after tamponing the opening in the skull, I quickly loosened and withdrew the hæmostatic forceps from the sinus, making light compression with the dressings. Although there was immediate oozing through the latter, no further hemorrhage ensued. Three weeks later I ligated the longitudinal sinus, having enlarged the opening in the skull to the right. The flap of dura previously raised on the left had become intimately attached to the cortex cerebri, and in raising it a second time the upper layers of the cortex came away with it. The sinus was ligated with two strong silk ligatures and was cut between them, and an attempt was made to extirpate the tumor, as before suggested. This proving impossible on account of implication of the confluence of the sinuses, the greater part was removed with a sharp spoon and the wound tamponed as before.

On the second day after the operation, when the patient began to rally from his collapse, he complained of an impairment of vision. Only with great difficulty could he count fingers at a distance of several feet, and he could scarcely see the clock on the wall opposite his bed, on which he had always been able to tell the time. The powers of vision were much more defective in the right than in the left eye. As was anticipated, ophthalmoscopic examination revealed nothing abnormal. At about the end of a week his sight began to improve steadily and almost regained its former power. About a week after the last operation the patient began to complain of continual headache. Antipyrin gave some relief, as did also galvanization, but on the whole the pains became more severe, in spite of all attempts at their alleviation, until the patient's death, which occurred seven weeks after the ligature of the sinus. Two days before his death he became restless. On the day preceding it he was unable to speak, and his attention could not be attracted. No motor or sensory disturbances were recorded. He continually attempted to roll himself out of bed on the right side. He died the following morning.

The post-mortem examination showed marked nervous congestion of the convex surface of the cerebrum; no meningitis; the tumor, that had been almost entirely removed at the last operation, had again developed to a considerable extent, encompassing the median region above the torcular and projecting to either side as a spherical mass, a little more voluminous to the left, where it measured about one and one-half inch in diameter. The tumor had to a certain extent compressed the cortex cerebri in the region of the first occipital gyrus, and also invaded the cortical substance in this area. It had not reached beyond the parieto-occipital fissure anteriorly, and the sulcus interparietalis laterally, and had left the angular gyrus entirely intact. In the substance of the left occipital lobe, but more especially on the anterior aspect of the tumor in that location, an extensive recent hemorrhage was discovered. The longitudinal sinus was filled with adherent blood-clots, which extended into the afferent veins.

It appeared to me of some interest to attempt to explain the visual defection by the pathological conditions found. We know, from the experimental researches of Ferrier and others, that the centre of vision is lodged in the occipito-angular region, that the greater portion of both occipital lobes can be removed in animals without causing any appreciable impairment of vision, but that destruction of the angular gyri will lead to complete blindness, non-persisting, however, when the experiments have been conducted on an antiseptic basis.[1] Ferrier comes to the conclusion that blindness following destruction of the occipital lobes only depends upon "direct implication or secondary extension of the lesion into the angular gyrus." I believe that, following the last operation in my patient, during which the cortical layer of the left upper occipital gyrus was almost entirely destroyed and the brain subjected to many unavoidable mechanical insults, also on the right side, inflammatory reaction spread into the angular gyri and was the cause of the visual impairment. As this condition subsided, his sight became almost fully restored. Some time after the last operation, the brain being fully

[1] Read before the Surgical Section of the New York Academy of Medicine, November 11, 1889.

[1] Ferrier: Functions of the Brain, 1886, page 271 et seq.

exposed in the region of the upper occipital and, as I thought, perhaps also of the angular gyrus, I applied both the faradic and galvanic currents to the brain-substance with, I regret to say, negative results, even though the currents finally employed were very uncomfortably felt at the tip of the tongue.

Ligature of the longitudinal sinus has, to my knowledge, been only once attempted heretofore.[1] The case was one of traumatic injury, where, after the removal of loose pieces of bone, severe hemorrhage set in from a rent in the dura at about the highest point of the skull. The operator compressed the opening in the sinus and closed it, as he expresses himself, with sutures sufficiently deep to include the entire sinus. No untoward symptoms followed, and the patient made a perfect recovery. That wounds of a cerebral sinus can heal, and generally do so, without interruption of the continuity of the lumen, has been amply demonstrated by clinical experience as well as by experimental work.[2] It would appear that the majority of all lesions of the sinuses heal in this manner. In our times of antiseptic surgery, when we have learned to avoid the most dreaded sequence of traumatic thrombosis of a sinus, viz., infection, and on that account are less fearful in surgical manipulations of wounding it, such wounds generally heal without giving rise to any unfavorable symptoms later on. Whether this is also the case when a sinus, especially the longitudinal sinus, becomes completely obliterated, seems to me a question still *sub judice*. Bergmann[3] says, in this regard: "Partial or complete obliteration of the larger sinuses does not necessarily lead to persisting disturbance in the functions of the intracranial organs; indeed, they can exist a long time without any such." Not a very definite statement. We know that cases of idiopathic thrombosis, if I may thus express myself, of the large sinuses, especially the longitudinal sinus, generally terminate fatally. Motor excitation symptoms, mental depression, sleepiness, apathy deepening to coma, occasionally delirium, are the symptoms of marantic thrombosis. Very frequently cephalalgia, assuming an unusually severe character, is present. I suppose that in my case the severe pains in the head were directly attributable to the venous stasis after the ligature. The veins from the cerebral surface open into the longitudinal sinus in the main part posteriorly; before entering it, they receive the small branches from the mesial surface of the hemispheres. These, an occasional anastomosis of the superficial veins over the gyri of the convexity of the brain,[4] and an emissary vein through the parietal bone, seem to be the only collateral branches available, when the longitudinal sinus is occluded near the torcular. As a result of these anatomical conditions, sudden closure of the sinus by ligature ought to give rise to the symptoms of thrombosis and their pathological substrata (venous stasis, meningeal hemorrhage, and capillary hemorrhages of the cortex) even more rapidly than thrombosis which is non-traumatic. Certain authors[5] have taken the view that when mental depression and apathy are the only symptoms, the obliteration is only a partial one. Neither in my own, nor in the case previously cited, if that be one of complete ligature, did any immediate symptoms develop. May not the extreme anæmia in my own case account for this? As the patient gradually recovered and began to sit up in bed, thus making muscular efforts, pains in the head set in and increased in severity from day to day.

I regard the operative procedure in my case in the light of an important factor in the causation of the intracranial hemorrhage, of which the patient died. Exactly where the hemorrhage occurred I am not prepared to state. It must have been from one of the larger vessels of the cortex or the subjacent white matter, considering its location in the occipital lobe, or perhaps even from one of the meningeal veins, and directly dependent on the venous stasis. As a matter of fact, extensive hemorrhage does frequently occur in thrombosis of the longitudinal sinus.

In conclusion, therefore, I would say that ligature of the longitudinal sinus, as recommended by Heinecke[1] and Navratil,[2] is not an indifferent surgical procedure, and one the admissibility of which is still to be determined by further clinical observation, and chiefly by experimental research.

[1] Navratil: Beiträge zur Hirnchirurgie, 1889, page 48.
[2] Schellmann: Ueber Verletzung des Hirnsinus, Dissertation giessen, quoted by Bergmann, Die Lehre von Kopfverletzungen, Deutsche Chirurgie.
[3] Loc. cit., page 369.
[4] Henle: Gefässlehre, page 337.
[5] Nothnagel: Ziemssen, Pathologie und Therapie, XI. i., page 208.

## FIVE REASONS FOR FAILURE IN TREATING CHRONIC RHINITIS.[3]

By THOMAS F. RUMBOLD, M.D.,
ST. LOUIS, MO.

THERE are numerous reasons why some physicians fail to successfully treat chronic rhinitis, but I will mention only five, any one of which would alone account for complete failure.

Since the last annual meeting of the American Rhinological Association, at Cincinnati, I have visited quite a number of offices of physicians who daily treat rhinal diseases. Of these offices I am permitted to speak plainly concerning the armamentaria of five. Each of these physicians has seen a copy of my criticisms, and is perfectly willing that my remarks shall be published *pro bono publico*. These physicians have a liberal education, literary and medical. All of them have the degree of A.M., and all of them have visited European hospitals. I say this to show that I am certainly taking a good average of intelligence of the profession, and men who have had better opportunities to study these diseased conditions than the great majority of physicians who attempt their treatment.

If, in speaking plainly of these physicians and their instruments and apparatuses, I seem too severe on others, I hope that it will be taken in good part, for I give it in the most kindly spirit, and because I have the advancement of my profession at heart.

The first reason for failure that I will mention is that of defective instrumentation.

There are three prominent faults connected with the instruments and apparatuses of these physicians that necessarily must cause their failure.

First. Not one of these physicians had a tongue depressor that would not cause the patient to retch as soon as it was introduced into the mouth. The blades of all these instruments were too wide to go between the teeth, and they were much too long also, being about six inches in length. These instruments were seldom used in examinations; the exceedingly defective method of drawing the tongue out with a napkin was employed instead. When these physicians used the right kind of a tongue depressor on themselves, while they were patients of mine, they were surprised at the marked contrast of the effects of the two instruments, for I had been careful to request them to try the effect of their own six-inch blade tongue depressor before using the one I had with me. A serious fault in the manner of using this instrument was that they applied it themselves on their patients' tongues, instead of allowing the patient to use it, thus almost compelling the patient's throat to spasmodically close, and in this way prevent any application to the pharyngo-nasal cavity and the posterior portion of the nares.

Four of these physicians declared, voluntarily, that my success was largely due to the use of the right kind of a tongue depressor, and because I allowed the patient to hold down his own tongue.

Second. The spray-producers that these physicians used were made for watery solutions only; they did not

[1] Heinecke: Die chirurg. Krankheiten des Kopfes, Deutsche Chirurgie, III., page 198.
[2] Navratil: Loc. cit.
[3] Read before the American Rhinological Association, October 9, 1889, at its Seventh Annual Meeting, held in Chicago, Ill.

possess an instrument that could throw warm vaseline. Liquid cosmoline was found in every office. While this remedy is far superior to tannin, iodine, nitrate of silver, or any of a dozen other agents commonly found in offices, yet it is very much inferior to warm vaseline. The fact that the cosmoline is in a fluid state is one of its attractive properties. In this shape the physician is spared the trouble of heating it, a sin of which the profession is frequently guilty, namely, avoiding any inconvenience, even to the neglect of the proper treatment of the patient. Although it is far more convenient to employ a cold liquid, yet it too quickly leaves the mucous membrane; besides this, heat is a very valuable adjuvant in the treatment of these chronic inflammations.

I doubt very much if one could cure a rhinitis of a man, thirty-five years of age, even with liquid cold vaseline, while cosmoline in any form is more or less irritating. Liquid vaseline will not remain long enough upon the mucous membrane, certainly not longer than one or, at most, two hours, as I have found after careful observation, while common vaseline may be found in the nasal secretions, by the aid of the microscope, forty-eight to eighty hours after it has left the instrument. Of course, treating rhinitis with aqueous solutions must end in failure.

Third. The compressed air used was taken from a container of a capacity of from three to four or five gallons. Air enough was forced into this reservoir to show a pressure of from thirty to seventy pounds. The reservoir was filled by an air-pump whose barrel was made of brass; the piston was packed with leather, which is partially decomposed animal tissue, and it was lubricated with rancid oil of some kind.

I asked these physicians if they had taken into consideration the comparatively large quantity of brass, as well as innumerable bacteria, emanating from the partially decomposed leather and positively decomposed lubricant that the compressed air had absorbed—certainly a hundred-fold more than would be absorbed by uncompressed air, and which was instantly deposited on the mucous membrane of the air-passages upon the removal of the high air-pressure. If anyone will try the experiment of passing air of this kind into a bottle of beef-tea, then pass air compressed by means of water-pressure into a similar bottle, he will see, by the aid of the microscope, the astonishing difference of the two airs. If he was to have one of these airs forced into his own air-passages, he would quickly decide to have the air that was not contaminated with the brass, leather, and rancid oil. One needs but allow some of this contaminated air to escape before his face, when his olfactories will soon detect the odorous qualities of the stream.

It is needless to say, to those who are acquainted with the subject, that the lowest air-pressure used by these physicians is fully three times greater than that which should be employed—ten pounds being the greatest pressure that the mucous membrane can stand without producing irritation, while by far the greater majority of patients require from only six to eight pounds' pressure. The object to be accomplished by the compressed air is to blow the secretion off the mucous membrane, and also to forcibly apply the medicament upon the cleanest surface. This it should do without causing the least irritation. All irritation, however slight, tends to retard recovery, if it does not increase the inflammation. Inspissated secretion requires a force of about ten pounds to completely coat it over. This force will remove but a small portion of the hardened secretion; to remove all of it would require a much greater force, but that force will cause irritation, which must not be instituted. With the reduction of the inflammation, aided by the softening of the secretion by the vaseline, the surface will soon be freed of the inspissated accumulation. Thick, purulent secretion will require from eight to ten pounds to blow it from its lodging-place; flowing muco-purulent secretion may be removed with a pressure of from six to eight pounds, and watery secretion, as is found in pruritic rhinitis, from four and a half to five and a half pounds.

The question may be asked: Were these five physicians less amply supplied with the proper kinds of instruments and apparatuses than most physicians who assay to treat these diseased conditions? Not at all. Their armamentaria are about as good as could be found in well-supplied offices in this country, Great Britain, or any other part of Europe. They are wealthy, ambitious, honorable men, and they had such instruments and apparatuses as their instructors in New York and Europe had themselves employed.

In closing my criticisms upon these physicians' methods, I ask: How is it possible to treat the posterior portion of the nasal passages when the tongue depressor that is employed is of such a shape and used in such a manner as to almost certainly cause the patient's throat to contract to its severest degree, thus shutting off all opportunity to reach the posterior nasal openings, for the upper and posterior portion of these passages cannot be properly treated through their anterior openings? Even if they could reach the diseased surfaces, they had nothing with which to treat but instruments that threw watery solutions or powders, or vapors. Again, if these very serious defects did not exist, the excessively high air-pressure would be injurious to the highly inflamed nasal passages. The patient might not complain at the time of the application, as many of them expect, or do not object to pain while under treatment; but it should be borne in mind that the anæsthetic condition of the membrane aids in covering any distress for the time being, but the next day the patient will complain of some new symptoms, which should be charged to the treatment received the day before.

There are comparatively few offices that have a sufficient number of instruments and apparatuses for the treatment of the diseases of the upper air-passages. No one would think that a man who intended to make a good living in selling dry goods, hardware, or anything else, was extravagant if he filled his store with from $5,000 to $50,000 worth of stock; but I have seen offices of physicians that would not bring $500—books, instruments, and furniture—even if sold at first cost, yet these men propose to earn a livelihood from this small outlay. Economy, with many well-to-do physicians, takes a prominent place when an instrument is to be purchased. Of course, efficacy is not entirely forgotten, but it does not, as it should do, hold a paramount place in their minds. A physician should not take into consideration his own convenience or his pocket when instruments, or apparatuses, or methods are to be selected; every consideration is due to his patient. The question that should be asked is, "Is this instrument or apparatus or method the best for the patient?" The cost or inconvenience cuts no figure what ever.

The next reason for failure is an anatomical one. I mean, by this, an error in locating the disease. Innumerable clinical observations, and almost innumerable post-mortem examinations prove conclusively that rhinal inflammation invariably commences on the superior and middle turbinated processes and extends in all directions in the nasal passages and into the passages connected with them, except on the floor of the nasal passages or so-called inferior nasal meatuses. It should be always borne in mind that these two portions are seldom affected with inflammation. There is another important fact well known to anatomists; that is, that the under surfaces of the four diseased turbinated processes cannot be thoroughly cleansed or treated through the anterior nasal openings, approach by way of the posterior nasal openings being absolutely necessary.

The only instruments I saw that could treat these surfaces were the posterior nares syringe and black rubber spray-producers, both throwing aqueous solutions. The syringe had generally been discarded because of the patient's vigorous protests against its use, and the black

rubber instrument was having the same kind of reflection cast upon it, the low temperature of the solution used, no doubt, being one of the causes of the unpleasant effects. A few still employed the nasal douche because of its former reputation, and because they do not know its injurious effects or were seriously impressed with the injury it does, besides being ignorant of the fact that it does not remove the secretion, and not knowing anything else that has the reputation of cleansing the coated cavities.

Another method of cleansing, as well as of medication, is the slender probe. This instrument is armed with a roll of cotton, plain or medicated; it is then thrust into the anterior nares, the first time being made to pass along the floor of the nasal passages, or the so-called inferior nasal meatuses—where there is little or no diseased mucous membrane—it is then made to pass into the middle nasal meatuses, and then into the superior nasal spaces, that is, if the patient could tolerate its passage six times. After these applications every patient's eyes were suffused with tears; the great majority blew a small quantity of blood from their noses. Another probe, bent nearly at right angles, was made to pass up behind the soft palate, and, when there, was made to wipe out this cavity.

The employment of these probes proved either that they were ignorant of the location of the disease, or were too easily satisfied with the futile attempts to reach the diseased surfaces. If these physicians had one thousand patients, and treated them all in this way, they necessarily must fail one thousand times to even ameliorate the complaint, and the great majority of chances are that they would injure everyone of the one thousand patients. Yet this is the method that many physicians have made extensive trips to Europe to learn. I have seen this method employed in Berlin and Vienna. This is not slander. In England but two or three men, up to 1884, recognized chronic nasal inflammation, and one distinguished writer says, in all earnestness, that this complaint is peculiarly American. Of course, he is mistaken. Rhinal disease is far more frequently seen in London than in any city I have ever visited. The fact is that the disease is recognized by but few English physicians.

In every case where there was a dry hacking cough, and, especially if the voice was affected, the probang was thrust down into the larynx, or toward it. As the disease was not in the location where the probang was passed, the patient would not be even relieved. If the patient persisted in visiting the physician but did not improve, the case was pronounced one of tubercular laryngitis, and he was recommended to live in a more salubrious climate. This is also transatlantic treatment.

Several patients who had a gagging cough in the morning were treated for stomach trouble. Nothing whatever was done for their nasal disease that occasioned the secretion that lodged behind the soft palate that in turn caused the gagging cough.

Fourth. The physiological reason.

The physiology of the nasal passages should be as constantly borne in mind as that of any other important organ of the body. Respiration, in health, is carried on almpst exclusively through the nasal passages. When constant mouth-breathing is necessary, the victim is constantly in distress, not only physically, but mentally. Now this is about the only function that the very large majority of operators seem to regard. As soon as partial or complete nasal stenosis is discovered, an operation for its relief is instantly urged, but, while restoring the function of nose-breathing, they utterly disregard every other function possessed by this organ. They attack the hyperplasia as though that alone was the disease; in fact, nothing else is done or recommended. The cause of the growth is not mentioned. Under these circumstances the patient, while relieved of the "stuffiness" of his nasal passages, is not in the least relieved of his rhinitis; on the contrary, the operation may have been so severe as to greatly aggravate the rhinal inflammation, as I have seen it in a number of persons who have come under my care after such operations. The fact that the function of the mucous membrane had become greatly impaired long before the formation of the growth that closed the passage existed, did not seem to enter the mind of the operator.

It is well known that scar-tissue does not perform all the functions of mucous membrane. While the air may be heated, or even overheated, yet the proper amount of moisture that is requisite for the pharynx, larynx, trachea, bronchial tubes, and air-cells is not present, consequently irritation of all of these lower organs commences from that time, and continues while the normal condition of the nasal passages exists. Not only this, but the nasal passages themselves will, because of their dry condition, give new evidences of new inflammation, which will greatly increase the whole trouble. This new inflammation will give rise to a superabundant flow of muco-purulent secretion. To check this we find the majority of physicians employing other means and other methods that again prove their ignorance of the functions of the nasal mucous membrane. For this trouble a few will employ inhalers, but by far the greater number use insufflators. I have seen, during the last year, at least a dozen varieties of instruments for throwing powders into the nasal cavities. All of them were nearly equally injurious, but those that threw the powder under the turbinated processes were by far the most injurious.

It is well known, but apparently forgotten, that the functions of the inflamed nasal membrane are but partially performed; it is also well known, and also apparently forgotten, that the normal condition of the mucous membrane is the moistened condition, yet these powder-blowing physicians attempt to restore the functions of this diseased mumbrane by drying its surface with a powder. A more preposterous act could hardly be conceived.

We are now ready to take up the fourth, the pathological reason.

How can these physicians escape the verdict of ignorance of the pathology of chronic nasal inflammation when they employ inhalations of vapors and insufflations of powders to cure this condition? Does the vapor or powder cleanse the thickly coated surfaces—surfaces that must be cleansed to be cured?* Do they think that these applications fall upon the diseased surfaces? Do they not know that these agents take effect only upon the surfaces that require the least treatment? Do they not know that the surfaces that most require treatment are not treated at all? It appears to me as though they must either plead ignorance of the pathology of this region or acknowledge malpractice.

Fifth. The etiological reason.

Inflammation of the surfaces under consideration is due to an enlargement of the blood-vessels, also to a very great increase in their number. This increase is more apparent than real, for these vessels existed long prior to the apparent increase, but they did not carry red blood-corpuscles, consequently they were not visible even under the microscope. This is readily demonstrated in the mesentery of the mouse, the foot of the frog, and the rabbit's ear. To permit the red blood-corpuscles to flow through vessels of a smaller calibre, the sympathetic nerves that control the muscles that surround these and all other blood-vessels are debilitated; they are in a paretic condition. This condition is due to injury done to sensory nerves by colds principally, but by other agents also, such as tobacco, alcohol, carbolic acid, etc. Unless the irritation was caused by these agents the sensory nerves would not act reflexly upon the sympathetic nerves, causing them to take on the paretic condition spoken of, and if this condition did not take place, there would be no such phenomena as inflammation, proliferation, hyperplasia, atrophy, œdema, ulceration, etc. In other words, without irritation inflammation and its sequences would not, nay, could not, exist. Keeping in mind that every irritation produces inflammation, what are the indications for treatment of chronic rhinitis?

1. The diseased secretion, which is always acrid, there-

fore irritating, should be removed. If morbid growths are present, as these also are irritating, they should be removed, thus removing the local sources of inflammation.

2. The new secretion, that is, that which is to be formed upon the surfaces that have been cleansed, should be prevented from becoming acrid, thus preventing another cause of inflammation.

3. Hygienic and sanative measures should be insisted upon. This is to prevent a continuance of the irritation to the sensory nerves, that are located upon the surface of the body and the mucous membrane, by colds and other irritating agents, thus removing the originating causes of the inflammation.

This is all that is required of the physician, or, far more correctly stated, that is all that he can do. *Vis medicatrix naturæ* performs the cure, if it is possible. The recovery will be rapid in the young, and slower as old age is reached.

Now, let us see if the methods and remedies mentioned will fulfil these three essential indications. They must fulfil all three, or a failure is sure to follow.

As already stated, the douche and the posterior nares syringe have very properly been abandoned by experienced physicians, because they do not remove the diseased secretions. The same must be said of the probe passed into the anterior nares, and up behind the soft palate, for the cotton cannot cleanse even the surfaces that they do reach, without, at the same time, producing excessive irritation, while the secretion under the four turbinated processes is not touched, and the secretion that is removed from the pharyngo-nasal cavity is not formed there, but originally comes from the upper portion of the posterior surfaces of the nasal passages, a region not attempted to be reached by the cotton applicator, and if attempted, would surely fail, as a portion of the parts affected and coated with purulent secretion cannot be seen except by a post-mortem section of the head.

It is evident that to fulfil the first indication—removing irritating secretion without causing additional irritation—is a complete failure. Yet this is about all that is done by men in this country and Europe who have a world-wide reputation for being scientific practitioners.

I claim that it would be truly wonderful if they cured a single case of chronic rhinitis. In fact, nature would be compelled to change her laws in order that she could perform a cure for them.

The second indication is not thought of; certainly not mentioned by any of the books, domestic or foreign. Maybe someone would say that the insufflation of a powder proved their attempt to prevent the secretions from becoming more decomposed, but the degree of irritation due to the powder that covered the surfaces that had no catarrhal accumulation, surfaces that did not require treatment, is greater than the benefit that could accrue from preventing the unremoved secretion from becoming further decomposed. Besides this, the irritation of the clean surfaces, due to the action of the powder, will cause the whole of the mucous membrane to pour out a superabundance of mucus, so as to wash out all the catarrhal accumulation on which the powder was lodged, thus putting a stop to the necessity of the corrective action of the powder.

I am much pleased to notice that the books published in this country during the last few years are calling attention to the third indication, namely, hygienic and sanative measures. Still, these measures are so slightly enforced by the physicians that the patients are not impressed with their importance. A great many physicians are victims of some of the habits that are conducive to catarrhal inflammation, consequently consistency prevents them from enforcing rules against tobacco-smoking, chewing, snuffing, the use of beverages that contain alcohol, keeping late hours, short hair-cutting, etc.

What relationship is there between the effect of iodine applied to the pharyngo-nasal cavity and the etiology of the inflammation in this cavity? a diseased condition that is due to a flow of secretion from still more diseased surfaces located two inches above it. Is this a scientific application? No one will claim that the iodine allays irritation. Its curative property depends, I believe, on its being an antiseptic, that is, correcting the acridity of the secretions to be removed. Even if this secretion should be allowed to remain and be corrected, does this allay the inflammation in the upper portion of the posterior nares, the location that originated this secretion? Supposing that the secretion is removed by the same instrument that applies the iodine, then there is nothing for the iodine to correct. The very same may be said of nitrate of silver, iodoform, preparations of mercury, etc. All of these agents injuriously affect the sensory nerves of the inflamed mucous membrane, these nerves act reflexly upon the sympathetic nerves that go to the blood-vessels of the same membrane, and in this way give rise to additional inflammation, the very opposite of what is intended.

It is seen that the mucous membrane of a patient treated in this way has three sources of irritation: First, the original one, from the sensory nerves of the integument, caused by colds; second, from the acridity of the secretion formed upon its surface; and, third, from the iodine or nitrate of silver or the insufflated powder.

What use is there in cumbering a book with the etiology of a disease if it does not guide one in the use of medicines or methods for its alleviation? If one reads the pathology and etiology of the nose and throat in foreign and domestic works, they will see no more relationship between these important subjects and the practice recommended than there is between a railroad time-table and a sheet of opera-music. It is a pure waste of time to read them, if one expects to be assisted in comprehending the course laid down for treatment. I have not seen a physician that read them more than once, and not one of these was reminded as to the means or methods of the treatment while reading them.

To conclude: When medical men fail to use instruments that will reach the location of the disease, when their efforts at treating the disease demonstrates that they do not know its location, when they are seemingly regardless of the function of the mucous membrane, when they treat a coated catarrhal surface with a vapor or a powder, and when their local applications and operations show that they have no etiology to guide their practice, nothing less than failure should be expected. Under these circumstances it should not be expected that a case of common chronic rhinitis would be ameliorated, not to say cured. It is innumerable fruitless efforts of this kind that has filled the world with expressions of positive doubt as to the curability of this disease. It is quite common for intelligent persons to say: "I fear that nasal catarrh cannot be cured. I have not seen a person that was cured, nor have I ever heard of one that was cured."

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Seeking a Resting Place for the Dead.—Efforts have been made on various occasions to provide mortuaries in Paris for persons who, for any reason, were not domiciled anywhere at the time of their death. A painful instance of the inconvenience resulting from the want of them occurred recently. A journalist, in the last stage of phthisis, feeling better one day, took advantage of this to induce his brother to bring him in a cab from the outlying suburb, where he had been residing, into Paris. He, however, succumbed soon after passing the *barrière*, and then began, for the brother, a tedious and horrible promenade. Refused at his own hotel, declined at the hospital, on the ground that it was not a mortuary, rejected at the Morgue because only the unidentified dead were received there, the whole night was passed in perambulating in the cab the dead body of his brother that nobody would receive. It was only by a derogation from the rules of one of the hospitals that the brother was enabled to find a temporary resting place for the deceased.—Paris Correspondent *Medical Press and Circular*.

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## SOME OF THE RECENT APPLICATIONS OF MENTHOL.

IT is only within a few years past that menthol has been used to any extent in medicine, and even now its employment is rather restricted—more so, perhaps, than its merits deserve. What these merits are, and in what conditions menthol has been found to possess some curative properties, it may be profitable briefly to consider.

The most familiar employment of this camphor is as a local application for the relief of pain, and menthol cones are prepared and sold in the shops for this purpose. The relief obtained by such applications is usually but temporary, yet in some of the milder forms of facial neuralgia and so-called rheumatic pains the remedy is of real service. In pruritus also the analgesic properties of the drug have been turned to good account. It is employed for this purpose in ointment, spirit, or liniment, in the strength of from one part in twenty to one part in ten. A very good preparation for this purpose is that recommended by Eloy, of a solution of fifteen grains of menthol in one ounce of forty per cent. alcohol. Still another use for the remedy, as externally applied, is in the treatment of furunculosis, and more especially of furunculosis of the external auditory canal. Here the bactericidal properties of the drug, as well as its analgesic action, come into play. Dr. Cholewa has made trial of menthol in these cases and commends it most highly. He applies it by means of a pledget of cotton moistened with a twenty per cent. solution and inserted into the canal. The application is said to cause a little smarting at first, but this is soon succeeded by entire relief of pain and a speedy subsidence of the inflammatory process.

Ringworm of the scalp is said by Dr. Malcolm Morris to yield more promptly to applications of menthol than to any of the ordinary remedies employed for this purpose. One part of menthol, four of chloroform, and twelve of olive-oil is the formula recommended in such cases.

In the treatment of various affections of the upper air-passages, also, good results have been obtained by local applications of menthol in the form of solution, vapor, or spray. Rosenberg and others have claimed quite a large percentage of cures of laryngeal phthisis by this means. In this country Potter, Knight, and others report very decided improvement after the use of menthol in this disease, but they have not observed any actual recoveries. In nasal and pharyngeal catarrh much benefit is often derived from sprays of menthol dissolved in oil or fluid vaseline in the strength of from one to twenty or thirty per cent. In hay fever William Hill, of London, has found menthol to serve an excellent purpose as a substitute for cocaine. He applies a ten or twenty per cent. solution in olive- or almond-oil to the sensitive area within the nose by means of a brush or atomizer.

In the chronic bronchitis of old age Nyes speaks favorably of inhalations of menthol, which, he says, not only facilitate and rapidly diminish the expectoration, but also allay the cough and reduce the number of paroxysms. These inhalations have also been used with good effect in whooping-cough. Finally, the same mode of application has proved useful in Jores' hands in relieving asthma. He reports a case for which all the usual and most of the unusual remedies had been tried unsuccessfully. Inhalations of a twenty per cent. solution in olive-oil were then tried, with the most satisfactory results—the rattling râles disappeared almost immediately and the respiration soon became normal.

Menthol has not yet been employed to any great extent internally, although it is said to act efficiently when so given in controlling certain painful affections. Dr. C. L. Dana has so employed it, with fairly satisfactory results, in migraine, supra-orbital neuralgia, and anæmic headaches. The dose for internal administration is from fifteen to sixty grains per day. These are some of the uses to which this drug has been applied, though they are by no means all. If the effects obtained should be found to be uniformly produced, we might well be justified in placing menthol among the most valuable of the minor therapeutic agents.

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## INTRATRACHEAL INJECTIONS OF OIL OF CREOSOTE.

DR. LOUIS DOR, of Lyons, has contributed to the *Revue de Médecine* an article upon the above subject. Over a year ago Beehag stated that he had successfully injected mentholated oil into the trachea of persons suffering from phthisis. The injections were made directly through the tracheal wall by means of a hypodermic syringe. This method, however, was too barbarous ever to be widely adopted, even if good results could be obtained. Dr. Dor therefore decided to make injections directly through the larynx, by means of a syringe specially constructed for the purpose. He also chose creosote in preference to menthol because of its stronger anti-microbic power. According to Bouchard about one-tenth per cent. solutions of creosote (0.80 per 1,000) kill the bacillus in pure cultures, while, according to Guttmann, one gramme to the litre retards its development. The solution used by Dor consisted of 5 grammes of creosote to 100 c.c. of sterilized olive-oil, and of this from eight to thirty drops were injected. The injections caused, in some persons, temporary choking and distress, and sometimes vomiting, but never hæmoptysis. The patients generally soon became accustomed to the medication and ceased to be disturbed by it. Experiments made upon rabbits showed that the oil gradually reached the alveoli of the lungs, and was not entirely absorbed for several days. Dr. Dor does not report any brilliant cures, but, like most of the new methods of treating phthisis, it gives relief to the cough and causes improvement in other symptoms. Further and extended details are promised at a later day.

### PARENCHYMATOUS INJECTIONS OF IODOFORM-OIL IN JOINT DISEASES.

A FEW years ago a good deal was written concerning the use of iodoform in the treatment of abscesses in tuberculous joint diseases, and many cures were reported as having resulted from injections of this substance. Further trials, however, did not appear to substantiate the claims of the early advocates of the measure, and for a time little was heard of it. But lately the method, in a modified form, has been revived, and several German writers have published reports of cases which would seem to show that it possesses, after all, some merit.

Dr. Wendelstadt, of Bonn, writing in the *Centralblatt für Chirurgie*, September 21, 1889, reports several cases of tuberculous joint diseases in which parenchymatous injections of iodoform-oil were employed with very good effect. At first iodoform in ether was used, but this had to be abandoned on account of the severe pain caused by it. Then the drug was given in olive-oil, one part to five, and was found to cause but little inconvenience. It is important to prepare the mixture each time that it is to be used, as the iodoform soon decomposes and iodine is formed. In some cases a slight rise of temperature was noted after the injection, but this was only temporary. In 85 cases in which the method was employed and in which the results were noted, an apparent cure was obtained in 36, some improvement in 37, while in 12 no benefit was apparent. The writer does not claim that the treatment is in the nature of a specific, but only that it gives good results in most cases. He is probably correct in regarding it as a useful addition to the resources at our command in dealing with this class of diseases, but as one which cannot be relied upon as positively beneficial in all cases.

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### THE USE OF THYMOL-MERCURY IN THE TREATMENT OF SYPHILIS.

THE analysis of the various secretions of syphilitic patients who are undergoing a course of mercurial treatment has shown pretty conclusively that mercury when given by hypodermic injection is absorbed more rapidly than when exhibited in any other way. Yet the disadvantages of this method are so great that it has failed to find any special favor, in this country at least, where practical availability is more regarded than is theoretical excellence. It is not unreasonable to hope, however, that some preparation of mercury may yet be found whose ready solubility and freedom from irritating properties will render it peculiarly fit for introduction into the system by this often most convenient method.

In the *Archiv für Dermatologie und Syphilis*, September 15, 1889, Dr. Eduard Wellander, of Stockholm, publishes the results of some experiments made by him with the acetate of thymol-mercury. He employed a mixture of one and one-half grain in fifteen of liquid paraffin. The injections were made usually every fourth day, and each patient received an average of six or seven injections. As a rule, the treatment was well borne, and it was seldom that the patients complained of any pain; when this was felt it was usually of very moderate intensity. In one case a small abscess was noted, but it disappeared without causing any trouble. Occasionally a slight induration was noted at the seat of the injection, but in only one case was it so troublesome as to lead the patient to ask for a change in the treatment. Stomatitis was present in a few cases, but this accident happened for the most part in the earlier experiments, when the injections were given every three days, and was much less troublesome when the interval was lengthened to four days. The results were in general very satisfactory, the symptoms disappearing promptly within three or four weeks, although relapses were noted in several instances. In two cases it was found necessary to abandon the injections on account of stomatitis and diarrhœa.

From his experience with this mode of treatment the author concludes that thymol-mercury is much better adapted for injections than is calomel, as it is far less painful and is not nearly so apt to cause abscesses. He regards the method as a great advance in the therapeutics of syphilis, although he admits that the ideal treatment of the disease cannot yet be said to have been discovered.

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### THE PHYSICIAN'S FAMILY AND THE PROVISION THAT HE LEAVES FOR IT.

IT is a well-known fact, and as sad as it is notorious, that physicians, even those accounted successful during life, often leave very little behind them for the support of their families. They may have enjoyed a good income, but their expenses were proportionately heavy, and when death overtook them they were found to have laid by little for the future. We do not propose to draw a moral from this, nor to preach the necessity of economy. "As uneconomical as a doctor" is an expression that has become almost proverbial, and preaching will not promote thrift where thrift is impossible. Of course, we do not mean to say that all doctors are improvident, but merely that the lack of a prudent foresight is an all too common failing among the members of our profession. In many cases, moreover, it is impossible to get ahead, the daily income sufficing only to meet the daily expenses, and so, when sickness or death comes and the income ceases, there is nothing left.

It is for this reason that physicians' mutual benefit associations have been formed in many of our cities, and we think it is the duty of everyone to join an association of this kind if he has the opportunity. We say everyone, for the larger the membership of such an association the more benefit is derived from it by each individual member. It is not only the needy who should join it, but the prosperous as well. No one can tell when reverses may come, and it is only the part of a wise man to provide for any possible contingencies. The same argument will apply to life insurance. If a man has his life insured when he is young, the expense is small, and he will have the satisfaction of knowing that his wife and children will not be left destitute, even if he has been unable to lay anything by for their support. Let him first of all join the Physicians' Mutual Benefit Association, if there is one in the community where he lives, and then let him put aside what he can every year in the shape of a premium on a life-insurance policy, and he will not regret it.

If everyone of our readers would but follow this advice, which we assure them is sound, there would be a saving of much suffering to the widows and young children of physicians who have died before their time. The incon-

venience of acting upon this advice now will be slight, but the future misery that will be averted by so doing is great.

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### ANTISEPTIC TREATMENT OF SMALL-POX.

ALTHOUGH, fortunately, in this country and at this time few practitioners are ever called upon to manage a case of small-pox, the disease is yet by no means so effectually stamped out that we can afford to ignore any advances that may be made in its treatment. In countries where vaccination is generally or universally practised the opportunity to study this disease is, as a rule, too restricted to be productive of any satisfactory results, and we must look, therefore, to other lands than ours for news of progress in this field. Of course there are hospitals in this city, as elsewhere, in which in the course of a year or of a series of years, many cases of small-pox may be seen, but the incentive to study the material there offered is not great, since public interest in the result of such study is but feeble.

There is, however, a country where the question is one of absorbing and perennial interest, and where one may be sure of finding an appreciative audience to listen to any reports of progress made in the treatment of small-pox. This country is Turkey, though throughout the Orient much the same condition prevails, as vaccination is so little practised there as to be almost unknown to the natives in many districts. In Constantinople there is not a physician who is not called upon to treat many cases of the disease every year, and he often sees it in its most dangerous and most loathsome forms. One may readily understand, therefore, that the question of variola and its treatment is not without interest to the resident of that picturesque but insanitary city. It is, of course, among children that the disease works its greatest ravages, since here is to be found the best material for it to act upon, and a large proportion of the mortality of young children is due to this cause.

Dr. Lewentaner, of that city, writing in the *Bulletin Général de Thérapeutique*, No. 32, 1889, speaks very encouragingly of the success attending an antiseptic method of treating the disease which he tried in several cases. This method consisted in the application of an ointment composed of salicylic acid, three parts; starch, thirty parts; and glycerine, seventy parts. The ointment was applied to the face by means of a mask, and also to the other parts on which the eruption was marked. Notwithstanding that the eruption was confluent in many places, large bullæ filled with pus being present, the lesions all dried up without rupturing, and left no cicatrices to mark their site. In addition to this external application, a mixture of quinine in cherry laurel water, oil of sweet almonds, and syrup of orange flowers, was employed. A small quantity of this mixture was dropped on the tongue and back of the pharynx by means of an ordinary medicine-dropper, three or four times an hour. This served to keep the mucous membrane of the mouth and pharynx moist while supplying at the same time a certain amount of quinine. There was about one grain of this drug in one and a half drachm of the mixture.

The advantages of this method of treatment are summed up by the author as follows:

1. All the children treated in this way recovered, although the ordinary mortality of the disease is forty per cent.

2. The duration of the disease was decidedly shortened, the period elapsing from the commencement of the eruption to the falling off of the crusts being twelve or thirteen days.

3. The disease ran its entire course almost without fever.

4. The danger to those around the patient is greatly lessened. In the author's cases there were other children exposed, but notwithstanding that they were not vaccinated, they did not contract the disease.

5. The simplicity of the method, as compared with the treatment by baths and cold applications, has much to recommend it.

6. Æsthetically, also, the antiseptic method of treatment offers great advantages, since it prevents absolutely all pitting.

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### THE PATHOGENIC PROPERTIES OF MICROBES FOUND IN TUMORS.

M. VERNEUIL, of Paris, is not much known as a bacteriologist, but with the help of Dr. Nepveu, who does possess skill in this line, he has been studying the bacteriology of tumors with some interesting results.

Neither Verneuil nor Nepveu find that there are any specific microbes causing cancer, sarcoma, fibroma, etc., but they do find these tumors are often the seat of various pathogenic organisms which may and do infect the system, causing fever, phlegmonous inflammation, sepsis, etc.

It has been observed that sometimes after the ablation of a tumor, despite all ordinary antiseptic precautions, there develops a sudden septic infection, or fever. This accident is due, according to Verneuil, to the fact that the tumor contained in certain parts, or in its juices, pathogenic organisms which infected the wound. It has happened that after tapping an ovarian cyst the patient rapidly becomes prostrated and dies; the bursting of a cyst or its accidental breaking has seriously complicated the progress of the case. Verneuil contends that there are microbes or microbic poisons in the cystic fluid, and that these cause all the trouble. He has made some experiments to prove this point. Fluid from cysts was withdrawn and injected subcutaneously into four dogs. They all died in two to eight days, with septic symptoms.

Verneuil's conclusion that microbes and microbic poisons are often associated with malignant tumors is one that is *a priori* very probable, and one belief in which clinical experience confirms. His investigations teach, he thinks, that malignant growths should be extirpated as soon and as thoroughly as possible.

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### THE "CORN-STALK DISEASE."

ALREADY the pathologist and the student of the ultimate sources of disease have found in the study of the maladies of animals an interest and a profit fully equal to that which proceeds from the investigation of human disease-changes. The articles of Frank S. Billings, in the *Buffalo Medical and Surgical Journal*, July to October, 1889, upon the "Corn-stalk Disease in Cattle," are good specimens of the scientific work which is now going on in this department of medicine.

The history of the epidemic is in each instance about as follows: In late autumn or winter, cattle are turned into fields of Indian corn, from which only the ears have been removed, or which has been "topped," to clean up the remnants of leaves and tops, and stalks, if they will eat the latter. After a few days one and another of the cattle is taken ill with a malady which may cause death in from twenty-four hours to ten days, or may result in recovery. It is an acute blood-poisoning, with fever from 102° to 107.6° F. There is weak pulse and rapid respiration. The animal may either bellow and chase other animals—as dogs, hogs, and fowls—or may stand by itself apart, depressed, and loth to move. All the sick retain the power to swallow, and all drink. There is frequently constipation, which may in favorable cases turn to diarrhœa. The urine appears normal. There is yellowish-red congestion of mucous surfaces. The secretion of milk slackens or ceases. The post-mortem macroscopic changes are those of acute septic febrile disease. The disease is not conveyed by one animal to another.

The farmers were sorely puzzled. Only certain fields or parts of fields were dangerous. They could never tell when a valuable herd would be decimated, if turned into a fodder-field. Various theories, easily disproved by experiment, were prevalent among farmers. It was held to be caused by lack of salt and water for the cattle; by dryness of the fodder; by smut (*ustilago maidis*); but it was seen in cattle which had water and salt; and the dry-food theory was shown to be false. Moreover, cattle fed on large quantities of smut were not made ill.

The growing corn was now examined. In the diseased patches the plants were stunted, if attacked in early summer. The lower leaves die, becoming yellow, with colored streaks. The roots decay in the ground, even the brace-roots becoming corroded. The ears do not mature.

Microscopic examination of the leaf-streaks and other diseased parts reveals the presence of an organism which is now believed to be the cause of the disease. It is never found far from parts which are plainly diseased, and it invades the healthy tissues at the edges of the affected areas.

The germ resembles very closely that of the Southern *cattle plague* of *wild-seuche*, and of the swine plague. It is ovoid, its length being about one-sixth the transverse diameter of a red blood-cell. When stained it resembles a small white bean, with both ends and two sides stained. It moves by a sort of rolling action. Dr. Billings supposes that the white, non-coloring substance is a secretion of the two poles or coccoid ends, and that it may constitute the ptomaïne or essential poisonous pathogenic principle of the disease, which gets into the fluids of the animal body by the breaking up of its capsule, which occurs as the germ becomes mature.

These organisms have been cultivated in media outside the body, and the injection of the cultures into animals has produced symptoms of "Corn-stalk Disease."

It is not known whether grasses and other grain-plants are affected by the disease. It is probable that the grains of the corn-ears may be diseased as well as the plant itself.

The diagnosis between the corn-fodder disease and the other diseases in which similar micro-organisms are found, is quite easily made by the history. It is most like the swine plague, but swine are not subject to it.

The only treatment suggested is the early administration of Glauber's salts, to clear out the intestines, and reduce the febrile congestion of affected organs. Methods of prophylaxis readily suggest themselves, including destruction by fire of all discharges, and of all corn or other plant-matter supposed to contain the germs of the disease. Animals killed by it should be immediately burned.

The disease is found in many States, especially of the North and West. It may attack horses, sheep, and goats, though generally seen in the cow. It is said to cause greater loss in cattle to the farmer of the great corn-raising States of the West than all other causes combined.

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### DOCTORS AS BEGGARS.

THE physicians of Chicago are trying, we are told, to establish a public library for the benefit of the profession. They first tried to get the City Library to make sufficient provision for their wants, but failed; and they had equally poor success with the trustees of the new Newberry Library. Now the doctors have ceased trying to get other people to give them a library, and are taking hold themselves. Already $10,000 has been raised. We commend the spirit thus shown, and trust that our brethren by the lake will succeed in getting a great library. It is a good plan for the profession to take care of itself just as much as it can. We have always heretofore looked to outsiders for help in building hospitals, colleges, laboratories, and libraries, with the result that the doctor in most of these institutions is but a minor factor in their management. The medical profession deserves public help in its purely scientific and benevolent work; but it can do a great deal more for itself than is sometimes supposed.

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## News of the Week.

THE METAPHYSICAL COLLEGE OF MASSACHUSETTS, an institution for teaching Christian Science, has dissolved.

ONE OF THE BEST AGENTS TO ABORT A CORYZA, according to Dr. Beverley Robinson, is carbonate of ammonia, in frequently repeated and rather large doses.

DR. WILLIAM COCKCROFT, of this city, died on November 18th, in the seventy-second year of his age.

A DEATH has been reported following the use of two fifteen-grain doses of sulphonal, the doses being given an hour and a quarter apart. The fatal result occurred forty hours after the first dose. The patient was a woman with melancholia, aged twenty-eight. The mode of death was apnœa.

THE BEST ANTIDOTE TO CARBOLIC-ACID POISONING is soap, which should be taken at once and repeatedly.

CREOLIN is being used to the exclusion of other antiseptics in the Obstetric Department of the Frauen Klinik under the care of Professor Winkel, of Munich.

THE BEST LOTION for recent injuries, says Billroth, is the ordinary lead lotion.

DR. ROBERT GAMBLE CABELL, a prominent physician of Richmond, Va., died last week, aged eighty.

A Chicago Doctor has sued Miss Frances E. Willard, President of the Women's Christian Temperance Union, for $50,000, for some trouble connected with the jurisdiction over a hospital managed, or sought to be managed, by the Union.—*Boston Medical and Surgical Journal.*

Politics and Charity.—The Associated Charities of Denver have opposed the building of a hospital by the city, because of the danger that the management of a hospital under the government of the city might be subjected in an injurious way to political influence.

New York Post-graduate Medical School and Hospital.—The Executive Committee of this institution have established a clinic for diseases of the rectum, to be under the care of Dr. Charles B. Kelsey, for the treatment of poor persons suffering from these diseases.

Dr. Francis J. Quinlan of this city was recently appointed Lecturer on Diseases of the Throat and Nose in the New York Polyclinic School and Hospital.

The Middleton Goldsmith Lecture.—Professor William Pepper, Provost of the University of Pennsylvania, will deliver the Middleton Goldsmith Lecture before the New York Pathological Society, in the hall of the New York Academy of Medicine, on Wednesday evening, January 15, 1890. The subject of the lecture will be "Hepatic Fever."

Dr. Thomas H. Burchard, of this city, gave a dinner at his residence on Monday evening, November 18th, to Dr. Blanc, of Aix-les-Bains, France. A select number of representative medical gentlemen were present. A phonograph was on exhibition, enlivening the occasion by songs and instrumental music. Dr. Burchard welcomed the guest of the evening, and Dr. Blanc gracefully replied, after which the phonograph recorded a characteristically eloquent welcome from Dr. Lewis A. Sayre; and thus will the coil echo his voice, tingle the ears, and warm the hearts of his many friends across the sea.

Dr. Charles A. Powers has been appointed Assistant Surgeon to the New York Cancer Hospital.

Another Hospital for Chronic Invalids, to be called the Isabella Heimuth, will soon be opened in this city. It is non-sectarian.

The Late Dr. Ricord, like many other eminent physicians, was a most benevolent man, but lacking in business capacity. When the Empire came, it brought him royal favors, wealth, and academical distinction; but notwithstanding his large income, which probably exceeded that of any other French doctor of the time, Ricord was constantly falling into debt, owing to his charitable disposition. He not only attended poor patients for nothing, but actually fed and housed them, and in the case of country or foreign patients he often paid their expenses to Paris. He was several times sold up, and even sent to prison while imprisonment for debt was possible. He was released by the Emperor, who paid his debts.

An Antiseptic Ointment, certain in power and not unpleasant in odor, is often desired, not only by the obstetrician but also by the gynecologist. Dr. Th. Parvin says that benzoated lard, to which four per cent. of creolin is added, will meet these indications satisfactorily.—*College and Clinical Record.*

"Vaso-motor Centre-itis" is the cause of puerperal eclampsia when there is no albuminuria or renal trouble to explain the convulsions. Such, at least, is the opinion of Dr. A. D. Macdonald (*Medical Press and Circular*), and he is certainly to be congratulated for giving us so rhythmical an addition to polynymy, as well as in attaching an actual anatomical disorder to a purely physiological centre.

Fire at the Faculté de Médecine.—The fire in the grand amphitheatre of the Paris Faculty of Medicine caused damage to the extent of some £2,800. Three immense pictures by Matout were destroyed. One of them represented Ambroise Paré applying a ligature for the first time, and was valued at £400. Of the two others, one represented the first clinical lecture in surgery at the Hôtel Dieu, and the other the first lecture on physiology at the chapel of St. Julien le Panore. The bust of Hippocrates, which has been gazed upon by so many generations of students, was also destroyed.

The Surgery of the Liver.—Mr. Lawson Tait, writing upon "Surgery of the Liver" (*Edinburgh Medical and Surgical Journal*), says: When first I attacked the liver by surgical operation I certainly was in terror of hemorrhage, for I thought that if an incision opened a large sinus the arrest of hemorrhage would be a matter of considerable difficulty, but I was encouraged by an accident which befell me in performing an ovariotomy, for there, on undoing an adhesion to the liver, I tore a cleft in the free edge of the organ, certainly an inch and a half deep, which bled freely, and I was greatly alarmed; but I took a small piece of solid perchloride of iron about the size of a pea and rubbed it over the edge of the tear. The hemorrhage stopped immediately, and my patient made an easy recovery, so that my respect for the liver greatly diminished. On one occasion I did open by my incision a sinus of considerable size, but I passed a thread by means of a fine needle down one side of it and up the other, and tied the sinus between the two limbs of the ligature. In this way the hemorrhage was arrested, and I heard nothing of the ligature. I was also in fear of another condition which, *à priori*, one might have expected —that it would be difficult to stitch the edge of the wound of a friable organ like the liver to the abdominal wall, and that the stiches would be very likely to give way. As a matter of fact, I have not found it so, and in not a single instance has this given trouble. In my operations upon abscesses of the liver all the cases have recovered but one.

The Russian Academy of Sciences offers a prize of 5,000 roubles ($2,500) for the best inquiry into the nature and effects of the poison which develops in cured fish. The competition is open to all. The memoirs must be sent in, either in manuscript or printed, before January 1, 1893, and may be written in any one of the following languages: Russian, Latin, French, English, German.

Pæderasty in Aristocratic Circles.—A loathsome scandal has occurred in London. A number of depraved members of England's aristocracy took a house in a fashionable part of the city and hired boys to assist them in the gratification of perverted and criminal sexual indulgence.

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

### SECTION ON SURGERY.

*Stated Meeting, November* 11, 1889.

ROBERT ABBE, M.D., CHAIRMAN.

#### RESULT OF SUTURING THE TENDON OF THE QUADRICEPS FEMORIS.

DR. W. T. BULL presented one patient, and said he had expected another, both illustrating the result of suturing the tendon of the quadriceps femoris. The first case had been made the subject of a paper read before the Surgical Society, but he had not had an opportunity to show the patient in illustration of the result, which was satisfactory union of the subcutaneously ruptured tendon and complete restoration of the functions of the joint. The boy presented was aged seventeen, and was admitted to the hospital in April last with a wound one and three-quarters of an inch in length above the patella, made by a circular saw. The tendon of the quadriceps had been cut directly across immediately above the patella. An incision was made three inches in length from the patella upward, and the tendon was sutured with catgut, the joint drained, and knee enveloped in an antiseptic dressing. There was at no time any suppuration, and the patient went about the wards with a plaster-of-Paris splint at the end of ten days. At the present time the power of extension had become normal, and the joint movement free.

In such a case as this, he said, in which there was an open wound, no one would hesitate to suture the divided tendon, but in other cases in which the rupture was subcutaneous the question of whether it was best to cut down and suture, or to leave the ends to unite without such operation, had not yet been settled. In view of the good result in his first case he would be disposed to operate.

#### SUTURE OF THE RUPTURED PATELLAR TENDON.

DR. R. G. WIENER presented a man who had been operated upon five years ago by Dr. Sands for rupture of the patellar tendon, with a perfect result. In December last the man fell down-stairs and ruptured the tendon again. He was transferred to Dr. Wiener's service at Charity Hospital in June last. He found the patella about four inches above the joint-line; power of extension entirely gone. He made an incision nine inches long over the joint, but found no remnants looking like patellar tendon. He then tried to use tissue on the lower part, shaping it somewhat like the tendon, but was unable to draw the patella down, and consequently was obliged to make complete section of the quadriceps tendon. Then, in order to bring the bone to its place, he had to drill and wire the patella and tibia, and then suture together the remains of the tendon on the two bones. Primary union took place, and the patient left the hospital at the end of three months, able to walk on the leg.

#### DOUBLE FEMORAL HERNIA IN A BOY.

DR. MILLIKEN presented a boy who had a double femoral hernia, the chief interest of which centred in the rarity of the affection before the twentieth year of age. Statistics showed only about one per cent. of hernia in that locality in men before the twentieth year.

#### COLO-COLOSTOMY.

DR. WILLY MEYER presented the woman on whom he operated forty months ago for cancerous stricture of the large intestine, and whose history was published in THE MEDICAL RECORD. The patient was still healthy in appearance, was stewardess on an Atlantic steamship, and weighed one hundred and fifty-one pounds, being only four pounds less than what she weighed a year ago. Yet hard masses could he felt, showing an extension of the malignant process. This was the first case of which he knew in which intestinal anastomosis had been successfully performed between two parts of the colon.

#### LARGE VASCULAR SARCOMA OF THE NECK, OF FIFTEEN YEARS' DURATION.

DR. F. S. DENNIS presented a man from whom he removed a vascular sarcoma of the deep structures of the neck, of the size of a child's head, three weeks ago, the tumor having been present fifteen years. Usually these sarcomata terminated fatally inside of two years. The growth in this case extended beneath the carotid and up to the base of the skull.

#### DRAINAGE OF THE KNEE FOR ACUTE SUPPURATIVE RHEUMATISM.

Dr. Dennis also presented a man who was transferred to the surgical ward from that of Dr. Janeway in Bellevue Hospital, where the diagnosis had been made of acute articular rheumatism affecting the knee, which went on to suppuration. Suppuration also took place behind the joint and below. The patient had a temperature of 103° F., with chills. Dr. Dennis opened the joint freely in three places, and inserted drains. Fully a quart of pus escaped. The patient was going about, and had a fairly useful joint, although he had not yet attempted to move it much.

#### PARALYSIS OF THE ARM AND SUBLUXATION OF THE SHOULDER-JOINT FOLLOWING AN INJURY.

Dr. Dennis presented a boy for diagnosis. About three months ago he fell from a horse and was supposed to have dislocation at the shoulder, which was reduced. When presented there was complete loss of motion in the arm, and of sensation anteriorly, and what Dr. Dennis believed to be subluxation of the shoulder-joint. Had there been a tearing of the brachial plexus at the time of the injury, or fracture of the coracoid process permitting of subluxation of the humerus, while the nerves afterward became involved in the inflammatory process? He thought of cutting down and learning the exact condition present.

DR. KAMMERER remarked that during the summer he had seen several cases of sarcoma of the neck, and had found them even more malignant than sarcoma of bone.

DR. C. A. POWERS said the last case presented by Dr. Dennis showed apparently exactly the same features seen in a woman at the Chambers Street Hospital two years ago. Dr. Dennis' patient, he thought, had atrophy of the deltoid, relaxation of the capsular ligament, and the slipping down of the head of the humerus was due to that fact. He did not think the head of the bone left the glenoid cavity entirely.

DR. A. G. GERSTER said he had repeatedly seen paralysis of the nerves composing the brachial plexus following dislocations of the shoulder-joint and fractures of the humerus, which had taken place in the vicinity of the shoulder-joint. He then recalled four cases in which that symptom was observed, and in all, as subsequent events proved, the paralysis was traumatic, so called, due to direct injury or inflammatory changes following it. In all, the function of the nerves was recovered. In a boy there was fracture of the neck of the scapula, which could still be demonstrated after restoration of nerve-function had taken place a year and a quarter subsequent to the accident. In the case presented he did not believe the plexus had been torn, and he thought it best to wait, submitting the boy to such treatment as was known to hasten restoration of function in disabled nerves, and if not successful at the end of a year, cut down and unite the divided nerves if that was the lesion present. He did not think there was dislocation of the humerus, but simply a relaxation of the tissues which held the head of the humerus in the socket. As Dr. Powers had remarked, the head did not go into the axilla.

With regard to the case of knee-joint disease, he thought it might have been one of acute infectious osteo-myelitis located near the joint, perforating into it, causing acute

suppuration of the knee. The fact that abscesses were found in the leg simultaneously with pus in the joint would seem to favor that assumption. It was extremely rare to find pus in joints affected by acute articular rheumatism. It was oftener present in the gonorrhœic form, but even in such cases it was not pure pus, but rather a sero-purulent liquid. He did not remember ever to have seen a case of acute rheumatism result in acute suppuration of a large joint.

Dr. R. F. Weir said the result in Dr. Dennis' case had been so much better than he had seen in his own or other surgeons' treatment of chronic suppurative synovitis that he thought it might be well to speak of Mr. Treeves' method, which was somewhat similar, and gave like good results. Mr. Treeves showed him several cases treated for suppurative synovitis, and motion had been well preserved. The treatment had consisted mainly in opening the joint and in continuous irrigation, plain water being allowed to trickle through the joint continuously several days.

Dr. Dennis said the irrigation in his case was kept up from time to time not longer than twenty-seven days.

The Chairman thought that if injury of the nerves was to be sought for in the boy's case, it should be nearer the spinal processes.

### EXCISION OF THE RECTUM FOR CANCER BY KRASKE'S METHOD.

Dr. Arpad G. Gerster presented a Hebrew laborer, on whom he performed excision of the rectum for cancer, February 17th last. Besides subjective symptoms, examination showed a rather irregular, nodular tumor, occupying the lower portion of the rectum and extending as high as the finger could reach. The sphincter was also involved. Kraske's method was adopted, consisting in first removing the coccyx and part of the sacrum in order to get at the rectum. The amount of the gut removed was about five inches in length. The difficulty of such an operation was very great by the ordinary method, while it was very easy after taking away a large portion of the sacrum, making the parts readily accessible. One could easily control hemorrhage, and take the necessary precautions, when the peritoneum was invaded. He thought the method was not only valuable in operations for removal of the cancerous rectum, but also in removal of the cancerous uterus, etc.

In July he noticed a suspicious nodule near the margin of the anus, which he removed, and drew the stump of the rectum farther down. He again loosened its attachments on another occasion, and drew it still farther down. The man now had a sphincter which enabled him to retain both hard and soft fæces.

Dr. F. S. Dennis then read a paper (see p. 566) entitled

### FRACTURES OF THE BASE OF THE SKULL.

Dr. R. F. Weir doubted the statement that in most cases of fracture at the base of the skull death took place from conditions known to arise from infection. In most cases where death ensued it was from the primary effects of the injury, and took place within twenty-four hours. He cited a case in which there was a discharge of clear fluid from the ear for some time, with loss of hearing, but absence of hemorrhage and coma. In the New York Hospital, when hemorrhage took place from the ear, they washed it with an antiseptic fluid and introduced iodoform gauze and cotton, but they did not resort to the head cap described by Dr. Dennis, although it might be an extra precaution worthy of adoption. He once tried to render the nasal cavity aseptic by plugging, but when he reflected on the conditions there present he gave it up as practically impossible.

Dr. A. G. Gerster said he had felt from the beginning, when listening to the paper, that he could stand with Dr. Dennis in the support of cleanliness and antiseptic precautions in fractures at the base of the cranium when such fractures could be considered compound. Sometimes, however, the fracture was simple, not compound, and even this form might result in suppuration. In other words, that suppuration might occur without communication with the air, and consequently in spite of antiseptic precautions. But he did not mention these facts as vitiating the soundness of the principles of treatment laid down in the paper. The necessity for antiseptic precautions was shown in a case at the Mount Sinai Hospital nine years ago. A man came who had hemorrhage from the ear three days. The hemorrhage ceasing, the house surgeon discharged him without any antiseptic precautions. He was afterward brought back with meningitis, and died. The post-mortem showed fracture at the base, rupture of the drum-membrane, and purulent otitis which had communicated with the base of the cranium. Antiseptic precautions might have prevented the otitis, and consequently meningitis and death. He doubted, as Dr. Weir had done, whether the nasal and oral cavities could be disinfected and kept so any length of time. He thought a dressing covering the ear, temporal and mastoid regions, and below, might take the place of the cap, and in the case of ladies it might be necessary to spare the hair.

Dr. John A. Wyeth thought it might be well to try drainage in case of fracture at the base by drilling into the skull, as had been practised in one case of fracture of the frontal bone, the surgeon establishing drainage by drilling into the ethmoid.

Dr. Dennis, in closing the discussion, said the simplest way to keep the head clean was to shave it; the hair would grow again. Regarding drainage, in fracture at the base, it was already present and he thought we needed simply to keep the parts aseptic. He still thought a plug of cotton would prevent infected air from passing up into the upper chambers of the nose and thus gaining access to the cranium.

### SIMPLE FRACTURE OF THE CARPAL SCAPHOID.

Dr. C. A. Powers presented the specimen, which had been removed post mortem. It had the evidences of recent fracture, without injury of the skin. But three cases of simple fracture of the carpal scaphoid were on record. He believed it was impossible to make a diagnosis of the condition without an exploratory incision.

Dr. F. Kammerer read a paper (see p. 569) entitled

### OPERATION ON A SARCOMA OF THE DURA MATER, AND LIGATURE OF THE LONGITUDINAL SINUS.

Dr. Weir said he had twice ligated the longitudinal sinus for hemorrhage. In one case the ligation was to control hemorrhage from a gunshot wound received in the war. The patient died, but the ligation had nothing to do with death. The other case was that of a child with fracture of the vertex; in applying the trephine, he got too near the median line, wounded the longitudinal sinus, ligated it, thus controlled hemorrhage, and the patient recovered.

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## AMERICAN RHINOLOGICAL ASSOCIATION.

*Seventh Annual Meeting, held at the Palmer House, Chicago, Ill., October 9, 10, and 11, 1889.*

### Wednesday, October 9th—First Day.

The Association was called to order at 10 A.M. by the President, Dr. John North, of Toledo, O.

The following were elected Fellows of the Association: Dr. E. L. Siver, Fort Wayne, Ind.; Dr. C. L. Dreese, Goshen, Ind.; Dr. O. F. McGahan, Chattanooga, Tenn.; Dr. Ely McClellan, Chicago, Ill., and Dr. L. B. Gillette, Omaha, Neb.

The next thing in order was the President's Address, which dealt, 1, with the relations that the physician bears to the public; 2, the relation of the specialist to the general practitioner and other specialists, and, 3, what the American Rhinological Association has done for the public and for the profession.

Dr. L. B. Gillette, of Omaha, read a paper entitled

REPORT OF A CASE OF BRAIN ABSCESS EMPTYING INTO THE NASO-PHARYNX.

The patient, aged twenty, farmer by occupation, strong and healthy, while working on an embankment in September last with a wheel-scraper, in driving along with it loaded, it in some way became unlatched and the handle, in flying up, struck him forcibly under the chin, knocking him down a sixteen-foot embankment, where he lay unconscious for thirty minutes. A week afterward he noticed that something was wrong with his eyes. About October 15th he went to work in a brick-yard, worked three days, and then complained of being nervous and of having a slight headache. On the evening of the third day he got soaking wet in a rain, went home cold, had a chill, followed by fever. A physician was called and pronounced it malarial fever. Dr. Gillette being subsequently called to see the case found the patient suffering with intense headache, the pain extending down between the shoulder-blades, and particularly into the right arm. Both pupils were widely dilated. Temperature was 101° F.; pulse, 105. He knew he had an inflammatory condition to deal with. A day or two after his advent into the case there developed marked compression of the brain. Temperature went down to 96°; pulse as low as 42; respirations to 9 or 10. Complete paralysis of right side and partially of left; complete loss of sensibility as well as of consciousness. He also lost the sense of sight, and remained in this condition four days without any perceptible change whatever. The patient took his food and medicine regularly. He was surprised one morning on finding that the patient had much improved. The mother told him that during the night the patient had a violent attack of coughing and showed him the character of the sputum. It was about an ounce of green, stinking pus, mixed with mucus. From this time the patient began to improve. There was an immediate return of consciousness, a quickening of the heart's action and respirations. Examination of the throat showed that the pus came from above. No pus came out of the Eustachian orifices, and when the patient leaned forward it would come out of the anterior nares. The discharge lasted two weeks. Where it came from, or how it got through, he could not tell. His opinion favored the ethmoidal and sphenoidal sinuses. As a result of this terrible ordeal the patient, when seen three months since, was totally blind, sense of hearing lost in right ear, has not got the use of his right arm, and his mind is not what it was. Could such results take place without some destruction of the brain-tissue proper? Could the patient have the same results from an intra-meningeal accumulation?

In the treatment Dr. Gillette used opium, quinine, mercury, cold applications to head, and cupping at the back of the neck, and the triple bromides as they were indicated. As soon as marked compression of the brain had developed he began to use eighty grains of iodide of potash each day, and kept it up for thirty days. Did this treatment have anything to do with the results?

Dr. Thomas F. Rumbold, of St. Louis, read a paper (see p. 570), entitled

FIVE REASONS FOR FAILURE IN TREATING CHRONIC RHINITIS.

The first is defective instrumentation. Not one of the physicians whose offices he had visited had a tongue-depressor that would not cause the patient to retch as soon as it was introduced into the mouth. The blades of all the instruments he saw were too wide to go between the teeth, and too long, being about six inches in length. These instruments were seldom used in examinations, the exceedingly defective method of drawing the tongue out with a napkin being employed instead.

2. The spray-producers used were made for watery solutions only. These physicians did not possess an instrument that could throw warm vaseline. Liquid cosmoline was found in every office. While this remedy is far superior to tannin, iodine, nitrate of silver, or any of a dozen other agents commonly found in offices, yet it is much inferior to warm vaseline.

3. The compressed air used was taken from a container of a capacity of from three to four or five gallons. Air enough was forced into this reservoir to show a pressure of from thirty to seventy pounds. The reservoir was filled by an air-pump whose barrel was made of brass; the piston was packed with leather, which is partially decomposed animal tissue, and it was lubricated with rancid oil of some kind. Ten pounds is the greatest pressure that the mucous membrane can stand without producing irritation, while by far the greater majority of patients require from six to eight pounds pressure only.

The fourth reason for failure was an anatomical one. He meant by this an error in locating the disease. Innumerable clinical observations and post-mortem examinations prove conclusively that rhinal inflammation invariably commences on the superior and middle turbinated processes and extends in all directions in the nasal passages and into the passages connected with them, except on the floor of the nasal passages or so-called inferior meatuses. These two portions are seldom affected with inflammation.

Keeping in mind that every irritation produces inflammation, what are the indications for treatment of chronic rhinitis?

*a.* The diseased secretion, which is always acrid, therefore irritating, should be removed. If morbid growths are present, as these also are irritating, they should be removed, thus removing the local sources of inflammation.

*b.* The new secretion, that is, that which is to be formed upon the surfaces that have been cleansed, should be prevented from becoming acrid, thus preventing another cause of inflammation.

*c.* Hygienic and sanative measures should be insisted upon. This is to prevent a continuance of the irritation to the sensory nerves that are located upon the surface of the body and mucous membrane, by colds and other irritating agents, thus removing the originating causes of the inflammation.

Dr. A. De Vilbiss, of Toledo, in opening the discussion, differed from Dr. Rumbold in that he did not believe properly tanned leather readily decomposes. Rancid oil for lubricating the air-pump is hardly ever used. Personally he used vaseline and naphthol as an application to the mucous membrane. With regard to vaseline it was used as a protector to the mucous membrane on account of its density.

Dr. O. F. McGahan, of Chattanooga, heartily concurred in what Dr. Rumbold had said regarding vaseline. Where we want the surface protected nothing will better take the place of vaseline. He sometimes uses iodine in weak solutions, and has not as yet had any bad effects from it.

Dr. A. G. Hobbs, of Atlanta, used the oil of vaseline. First, for cleansing purposes, and, second, for its celerity. He can warm it much quicker than the solid vaseline. The danger and greatest objection to the douche in cleansing the nasal passages is its liability to set up middle-ear catarrh, which is sometimes produced by the post-nasal and anterior nasal douche.

Dr. John North, of Toledo, did not favor the use of tongue-depressors. Patients should be trained to manage their tongues without them. When he did use one it was a small wire tongue-depressor. He uses the oil of vaseline for cleansing the nasal passages, with a little alkaline spray or even with eucalyptus or some other antiseptic dissolved in it. High pressure the rhinologist did not want.

Dr. C. L. Dreese, of Goshen, Ind., read a paper on

REFLEX SYMPTOMS OF RHINAL DISEASES, WITH REPORTS OF CASES.

The first case was one of heart, stomach, and lung troubles caused by sympathy from rhinal disease. The removal

of the latter affection was followed by recovery of the former. The second case was one where incontinence was a reflex symptom of chronic nasal catarrh, and was cured by treating the catarrhal trouble alone. The third was one in which epilepsy was a complication of rhinal disease.

Dr. C. H. Moore, of Indianapolis, contributed a paper on

OCULAR REFLEX SYMPTOMS IN NASAL DISEASES.

He had relieved a case of neurotic affection of the Eustachian tube of the left ear by spraying the nasal passages with vaseline. Hack mentions a number of cases of hemicrania and asthma cured by the galvano-caustic destruction of the hyperplasia of corpora cavernosa of the nasal cavity. Voltolini demonstrated that asthma may be relieved by the removal of nasal polypi. A certain group of eye symptoms, such as lachrymation, photophobia, conjunctival hyperæmia, are observed in a number of patients that come to the rhinologist, and yet the examination of their eyes reveals no anomaly. The vision is normal, no eye strain, conjunctivæ healthy, the puncta lacrymalia favorably placed, and the tear-ducts open. For such cases a simple eye-wash has been ordered, cold or warm applications recommended, general hygienic treatment advised, without any relief to patients. Relief of the rhinal affection in these patients was generally followed by a cure.

The cases he reported had the following symptoms in common:

1. Burning and smarting sensation of the eyelids, especially in the morning.
2. Difficulty in distinguishing an object in ordinary daylight.
3. Increased vascularity of the conjunctiva and lachrymation on exposure to the air.
4. The sound condition of the eyes and their appendages.
5. Failure of ocular and general treatment.
6. The efficiency of nasal treatment.

Dr. N. R. Gordon, of Springfield, Ill., said his rule of proceeding with such cases is to examine the eyes for irritation or the condition of refraction, and if the latter is normal, and no other source of inflammation can be found in the eye, he examines the mucous membrane of the nasal passages, and very often the cause is to be found there.

Dr. E. R. Lewis, of Indianapolis, said there was no doubt but that a number of such cases are being constantly referred to the rhinologist. It should be determined that there is no error of refraction requiring treatment before the rhinologist accepts the case. About one-third of his cases were sent to him by Drs. Thompson and Stillson (oculists), but not until the eye trouble had been corrected, after which he commenced to treat them for rhinal troubles. This he believed to be the logical course to pursue in such cases.

Dr. E. Fletcher Ingals, of Chicago, related the case of a lady which illustrates the possibilities of eye trouble being caused by nasal disease. She came to him with hypertrophic rhinitis. He proceeded to cauterize the turbinated bodies, and before she left the office she asked him if he could not do something for her eyes, that she was unable to use them more than five minutes at a time for the last three years. He referred her to an oculist that she might get relief. She did not return to his office for two weeks; on her return she said she had not been to an oculist, but that the next day after the nose had been cauterized she was able to read at night and it did not affect her eyes.

Dr. N. R. Gordon read a paper on

THERAPEUTIC MEASURES IN RHINOLOGY.

He said that after the surgical removal of hypertrophied tissue a curative local treatment, continued at short intervals for one or two years, or even longer, is necessary. This should consist of the oil of vaseline, with a small amount of eucalyptol or something of that character. Astringents do but little, if any, good. Where the oil of vaseline fails, salt and water in proper proportions, with a small amount of Listerine, or Dobell's solution, are suitable remedies. To prevent mouth-breathing during sleep, he recommends his patients to wear a little instrument made of celluloid, that fits nicely between the teeth and lips.

In atrophic catarrh, after the removal of all secretion on the surfaces, where the mucous membrane is very thin or even ulcerated, he finds the application of a solution of resorcin, one drachm to the ounce, to be exceedingly beneficial. In the most unyielding and obstinate form of nasal catarrh he uses a glycerine suppository composed of ninety-five per cent. glycerine and five per cent. stearin. The solidified glycerine is placed so as to come in contact with the atrophied or ulcerated portion of membrane. The glycerine soon asserts its well-known affinity for water, and the result is an abundant flow of thin mucus.

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Thursday, October 10th—Second Day.

Dr. C. H. Von Klein, of Dayton, O., read a paper entitled

ATROPHY, HYPERTROPHY, AND DEVIATIONS OF THE SEPTUM,

in which he said he had examined the nasal cavities in over six hundred patients, and found not exceeding two per cent. to have an absolutely straight division of the nares. In almost every case he observed deformities of some sort, either atrophy, hypertrophy, or deviation of the septum.

The causes which are most common to deviation of the septum occur to people when they are in their babyhood. When children commence to creep and walk around, passing from chair to chair, they fall, and nine times out of ten it is on their nose. Personal observation leads him to believe that atrophy of the septum is confined to the cartilaginous portion. Hypertrophy, on the other hand, is confined to the osseous portion of the septum, and these conditions are generally caused by such injuries as may occur to any other part of the bony system. A stroke or fall on the osseous portion of the septum may produce hypertrophy.

Dr. C. F. McGahan, of Chattanooga, read a paper on

THE TREATMENT OF CHRONIC NASAL CATARRH,

in which the author said the remedies for its treatment comprise almost the whole materia medica. Formerly it was treated principally with strong astringents—for example, strong solutions of nitrate of silver by the post-nasal syringe, sprays of tincture chloride, tannic acid, etc. Where we have polypi the first thing to do is to remove them, which can be done by the snare or the galvanic cautery. Where the polypi are located in the anterior chamber he prefers the cautery; but when they are in the posterior chamber of the nose, the snare. Acids he did not like in the treatment of hypertrophies, as it is impossible to control the exact amount of tissue they will destroy, and then the pain is always more intense than after the use of the cautery. The hypertrophy being reduced we have simply a case of chronic catarrh with moderate hypertrophy to combat.

At the outset we should spray the nasal cavity thoroughly with Dobell's solution, or the combination with Listerine, which is recommended by Leffert. Seiler's tablets are convenient and effective. He has the spray tubes of Sass, Rumbold, Davidson, and Richardson in his office, but prefers the DeVilbiss, for with one of the DeVilbiss make for aqueous fluids, and another of the same make for oils, the rhinologist can apply nebulæ to any part of the nasal cavity. Having cleansed the nasal cavity thoroughly we are now ready to apply our medicament. When there is moderate hypertrophy he generally used about three times a week a spray of vaseline with a combination of the iodides, or with iodine and carbolic acid.

The liquid albolene (as manufactured by McKesson & Robbins) is by far the nicest vehicle he had as yet used, although it does not remain upon the tissues as long as vaseline, and when used for its protective effect the vaseline was preferable. He now uses the iodine and iodides dissolved in albolene, first as a spray for their alterative effect, and then spray in just pure vaseline to protect the tissue from air or any particles that may be suspended in the air. After cleansing the nasal cavity thoroughly, he usually sprays the parts with vaseline combined with a few drops of eucalyptol or oil of gaultheria, sometimes a drop of carbolic acid to the ounce of vaseline. On account of the hydragogue effect of glycerine upon the tissues it occurred to him some time ago that in hypertrophic conditions of the nasal cavity it may be useful in drawing the water from the tissues and thereby reducing them in size. He had often seen it advised in combination with other drugs in the different sprays, but his way of using it was similar to that of the gynecologists when they apply it on tampons for different hypertrophic conditions of the uterus. The cavity having been thoroughly cleansed he applies to the hypertrophic membrane a tampon soaked in a solution of glycerine one part, water four parts, which he allows to remain in from one to four hours. As the membrane becomes accustomed to the glycerine he rapidly increases the proportion of it in the solution until he uses equal parts of it and water. He advises plugging the anterior nares with absorbent cotton, which prevents the tampon from being expelled. He has been experimenting with this treatment for the past six months, and thinks it is of great benefit in reducing many cases of hypertrophies.

Dr. A. De Vilbiss, of Toledo, contributed an interesting paper, entitled

SURGICAL TREATMENT IN DISEASES OF THE NOSE,

in which he said until recently few diseases have caused more dissatisfaction in their treatment than chronic nasal catarrh. He did not wish to be understood that in every case of nasal catarrh there is a demand for surgical interference, but in every case that demands operation a catarrhal condition of the nasal passages was usually found to exist. He had given relief from frontal headaches, mental depression, etc., by the removal of hypertrophic tissue from the middle turbinate. He believed the time was not far distant when the sphenoidal sinus, frontal sinus, post and anterior ethmoidal cells (after death) would be looked into and examined to find a special cause for certain symptoms that existed during life and the answer found. Schwable, Axel, Key, and Retzius have demonstrated the fact that not only can the lymphatics of the nasal mucous membrane be injected from the subdural and subarachnoidal spaces, but if force be used the fluid will pass through the lymphatic canals to the surface of the nasal mucous membrane. Permanent nasal stenosis should be relieved by an operation, as it is due to either traumatism, hypertrophic tissue over turbinate bones, thickening of tissue or deflections of nasal septum, gelatinous polypi, adenoma of vault of pharynx, fibromata or sarcomatous tumors, and the only source of relief is their removal or correction of misplaced parts. Preparatory to operating he always cleanses the nasal cavities of acrid matter and protects the cut surfaces after operation by keeping them covered with iodized or carbolized albolene or vaseline. Hemorrhage, if necessity demands it, he controls by cotton plugs. If the source of hemorrhage is well back in the nasal cavities he uses small cotton plugs tied with a string in the form of a kite-tail, which are easy to introduce and easy to remove.

## Friday, October 11th—Third Day.

At the solicitation of Dr. Seth S. Bishop, of Chicago, a committee was appointed by the President to co-operate with the United States Hay Fever Association, with reference to the investigation and treatment of hay fever, to report annually.

Dr. R. S. Knode, of Omaha, contributed a paper on the

IMPORTANCE OF CONSTITUTIONAL TREATMENT IN RHINO-PHARYNGEAL INFLAMMATION,

in which he said the rhinologist ofttimes becomes discouraged with all the means at his command when he finds that patients do not improve as he would like them to do; but if the history is carefully looked into there would be found some diathetical condition at the bottom of the nasal trouble, which, if the rhinologist could relieve, would cause a subsidence of the local inflammation. This catarrhal condition frequently extends into the stomach and intestines, and from the duodenum to the ductus choledochus, in which we have the combined symptoms of gastro-intestinal catarrh, associated with jaundice, and when the nutritive system becomes implicated there is a wide range of sympathetic disturbances which invariably follow.

The principal sympathetic phenomena transmitted from this condition is sick headache, depression, melancholy, sleeplessness, hypochondria; the heart's action is often disturbed; there is sympathizing dyspnœa, and to these may be added languor, lassitude, and irritable temper.

The general principles in the treatment of such cases would be a properly restricted diet, consisting of milk, stale bread, soft-boiled eggs, and well-cooked rice. If milk is not well tolerated, it should be peptonized; foods containing little starch and largely diluted with water are the best tolerated. Among the internal agents may be mentioned the alkaline carbonates, combined with purgative salines, especially where the nasal trouble is associated with disease of the stomach, which is a frequent complication in malarial districts; and in these regions no treatment is effective until we diminish the engorgements of the liver and spleen, and nothing accomplishes this so well as the use of alkaline and saline laxatives, and these may be assisted by small doses of mercurials. Carlsbad and other mineral waters have been extolled, but phosphate of soda and rochelle salts, if perseveringly used, may take their place. General hygienic treatment in all cases must be insisted on.

Dr. E. L. Siver, of Fort Wayne, Ind., read a paper, entitled

REFLEX INFLAMMATION OF THE NOSE AND THROAT.

The author reported a case of laryngitis, with aphonia, which lasted two weeks, and which, he thinks, arose from a deflected septum and posterior hypertrophy of the inferior turbinated bone.

Dr. A. G. Hobbs, of Atlanta, read a paper on

CATARRHAL NEURALGIA,

by which he meant to include not only the headaches and browaches that are caused by the pressure from nasal hypertrophies or foreign bodies, but all reflex pains that have for their origin pressure in the nasal cavities, whether they be located in the forehead, the temples, across the bridge of the nose, or over the cheek-bones. That such reflex pains do occur, and have for their cause pressure in the nasal cavities, was known long ago. If they were only occasional, or of short duration, they might not demand so much attention, but in many cases the pains are more persistent than the neuralgias from any other cause, and they, many times, produce a more profound impression upon the general system, indicated by a sense of lassitude, a haggard expression, a malassimilation, and a decided loss of weight. He had no statistics bearing upon the comparative frequency of catarrhal and ocular neuralgias other than his own note-book of the last three years. In it he found fifty-four cases under the combined headings: *Catarrhal neuralgia, ocular headache, and catarrhal and ocular neuralgia* combined; thirty-six cases occur under the first caption, fourteen cases under the second, and four cases under the third.

After recognizing the etiology of a case exhibiting these reflex pains, on account of the severity of the pain, tem-

porary relief should be given the patient by the application of cocaine sprays, or, in the case of complete stenosis, the cotton probe saturated with cocaine first, then the sprays. The effect should then be to reduce the pressure permanently by the means that is most rapid.

If the pressure be due to a polypus, extract it; if to a deflected septum, remove the deflection, and if it be (as is most likely the case) due to an hypertrophy, reduce it with the galvano-cautery, the snare, glacial acetic acid, or chromic acid. He most frequently resorts to the latter. After the removal of the pressure, pain ceases to a great extent, if not entirely; then the more soothing treatment of vaseline sprays, in combination with cocaine, pinus canadensis, oil of terebene, or oil of eucalyptus, daily or tri-weekly, will complete the resolution.

He knew of no class of cases that apply to the rhinologist for relief in which treatment gives more prompt and satisfactory results. Indeed, when there is no mistake made in the etiology the result is absolutely sure, if means are resorted to that are effectual in removing the pressure upon the terminal sensitive nerves that are distributed to the nasal mucous membrane.

Dr. Ely McClellan, of Chicago, read a paper on the "Physiological and Therapeutic Action of Certain Drugs in the Treatment of Affections of the Upper Air-passages."

THE ELECTION OF OFFICERS

resulted in the choice of the following:

*President*—Dr. A. G. Hobbs, Atlanta, Ga.; *First Vice-President*—Dr. A. B. Thrasher, Cincinnati, O.; *Second Vice-President*—Dr. E. R. Lewis, Indianapolis, Ind.; *Secretary and Treasurer*—Dr. R. S. Knode, Omaha, Neb.; *Librarian*—Dr. John North, Toledo, O.; *Member of Council*—Dr. C. H. Von Klein, Dayton, O.

Next place of meeting, Louisville, Ky., 1890, in conjunction with the Mississippi Valley Medical Association.

## NATIONAL ACADEMY OF SCIENCES.

*Regular Meeting, held at Philadelphia, Pa., November 12 to 14, 1889.*

SEVERAL of the papers read at this meeting were of great interest to the medical profession.

PROFESSOR WOLCOTT GIBBS and DR. H. A. HARE presented a further report on the results of the

SYSTEMATIC STUDY OF THE ACTION OF DEFINITELY RELATED CHEMICAL COMPOUNDS UPON ANIMALS.

These experiments are made with phenols of various composition. Their former report treated of ortho-, meta-, and pora-phenol; the present one of di-nitryl and tri-nitryl phenol. The effect of these substances on the heart and vagus nerve was carefully noted and described. One remarkable effect is the length of time between heart-beats, amounting in some cases to ten or even fifteen minutes, the animal being apparently dead, but kept alive by artificial respiration. These compounds kill quicker than the series previously reported on, and are more deadly in proportion to the amount of nitrogen contained. The position of $NO_2$ in the compound appears to determine the physiological effect of it. If this is so, it should give a clew to the physiological effect of drugs, and tend to place therapeutics on a scientific, instead of the present largely empirical, basis.

PROFESSOR WILLIAM H. BREWER, of Yale, read a paper on

HEREDITY OF ACQUIRED CHARACTERS.

He combats the view of Weissmann, who has published a volume in support of the proposition that characteristics acquired by individuals are not transmissible. Weissmann supports this proposition by experiments on mice, whose tails he cut off for successive generations, without inducing a tailless diathesis in their offspring. Brewer discussed four kinds of variation: 1, variation in size; 2, variation caused by exercise, training, and education; 3, variations due to disease; 4, characters assumed as the result of accident or mutilation. It is well settled that abundance of food affects the development and size of the individual, and of the offspring. All cattle-breeding proceeds on this postulate. A good example of the second class of variations is afforded by the evolution of the trotting horse, which began during the present century, and has proceeded so far as to produce a breed of horses which have actually lost the instinct to run, and trot even while they are young. Variations due to disease are equally powerful, but less susceptible of demonstration. An example is ringbone in horses, caused by accident to the individual, but transmitted to offspring. As regards heredity of mutilations, numerous instances are cited, among which were enumerated several cases of malformed fingers in offspring of parents whose fingers had been injured by accident. Conspicuous instances of sports developing into varieties are certain forms of merino sheep, and sequoia-trees of a certain type of foliage.

PROFESSOR BROOKS, in discussing the paper, opposed Brewer's view, and said that adaptations of nature have been evolved for the good of the species, not for that of the individual; hence they are not ordinarily transmitted, and the inherited effect of the influence of environment bears no appreciable effect on the evolution of species. Thus the larva of worker and drone bees is protected by an envelope of silk all around, while that of the queen bee leaves the abdomen unprotected, for the obvious purpose of enabling the mature queen to sting her larval rival when the swarming season is over, thus sacrificing the individual for the good of the community. The generation of polymorphic hydroids is an instance where the functions of generation are not exercised by the working members of the group, so that instincts acquired by experience are not transmitted.

The bodies of all animals are similar polymorphic aggregations of cells. The cells of the body which are exposed to external influences and vicissitudes are outside the line of succession in generation.

DR. H. C. WOOD, of Philadelphia, also opposed Brewer's conclusions. He

DOUBTS WHETHER THERE IS SUCH A THING AS HEREDITARY DISEASE.

It is not the disease, but the liability to disease that is inherited; in other words, the lack of power of resistance to external irritation. Consumption, for instance, is caused by the presence of an organism, the bacillus. This bacillus is certainly not inherited. We all breathe it, but not all become consumptive. Persons who have not sufficient power of resistance are affected by disease. These persons have inherited a weak constitution, or their powers of resistance have been weakened. This is all the heredity there is about it.

Dr. Wood also read a paper on

HYPNOTIC CASES WITHOUT SUGGESTION.

Hypnotism, he says, has long been used as a remedy by quacks and pretenders. After putting a patient in a hypnotic state, they make suggestions to him as to his physical condition, and on awaking from that state his condition is found to have improved in accordance with the suggestions offered. Thus we appear to have an alteration in nutrition without emotion, which is much more difficult to understand than alteration due to emotion. Nervous shocks affect the nutritive system, as numerous examples show. It seems more rational to suppose that the effect of hypnotism is due to the emotions felt while going into the hypnotic state than to suggestions made to the patient while in such state. There is nothing more uncanny than a room full of people in various stages of hypnotism, engaged in preposterous feats at the suggestion of the operator. The effect of such a sight was powerful even on the speaker (Wood). How much more so then on the uneducated.

This theory was tested on two patients, one of whom was paraplegic and the other affected with paralysis agitans. He hypnotized these, but made no suggestion to them, *i.e.*, said nothing about curing them, or that they would experience such and such sensations as the result of treatment, as mesmerists usually do. The first patient was cured by two applications of the treatment, the second by seven or eight.

Hypnotism is not efficacious in nerve diseases where the nerve-tissue has undergone changes that may be detected by the microscope. It is applicable to cases of hysteria, using the term in a broad sense, to include a large class of nervous diseases, such, for instance, as St. Vitus' dance and many others.

In this country, he can only hypnotize about half his patients; in France and Germany, nearly all.

## Correspondence.

### OUR LONDON LETTER.

(From our Special Correspondent.)

CHOLECYSTOTOMY—GLYCOSURIA AND ITS ASSOCIATIONS—PROPOSAL FOR FURTHER DRAINAGE LEGISLATION—THE ROYAL COMMISSION ON VACCINATION—NEW ANTISEPTIC METHODS.

LONDON, November 2, 1889.

THE first meeting of the Clinical Society for the winter session was held last week. The evening was occupied in discussing the subject of cholecystotomy. Mr. Mayo Robson, of Leeds, read a paper in which he gave an account of fourteen cases in which he had performed the operation. Eleven were cases of gall-stones, one was a case of empyema of the gall-bladder, and in the other two cases the operation was performed to relieve distention of the gall-bladder; the distention was found to be due to cancer of the head of the pancreas in one case, and in the other to cancer of the bile-duct. All the patients operated on for gall-stones recovered. Recovery also ultimately ensued in the patient operated on for empyema of the gall-bladder, though when operated on she was apparently dying from acute peritonitis; a biliary fistula remained for some time after the operation, but this was closed by cholecystenterostomy. The case of cancer of the pancreas terminated fatally on the eighth day from hemorrhage; the latter was due to a constant oozing of blood from the interior of the gall-badder and from the suture-punctures. In the case of cancer of the bile-duct, though there was intense jaundice there was no subsequent bleeding or other complication; of the cases operated on for gall-stones, six patients had sought advice in consequence of the presence of a tumor combined with other symptoms; five cases were operated on solely on account of symptoms, no tumor being detectable. In the former cases the operation was usually simpler, though in one case, where an apparently solid tumor was exposed which was due to the matting of the viscera surrounding the gall-bladder, so that the mass appeared at first to be a malignant growth, it was found impossible to shut off the general peritoneal cavity by suturing the parietal peritoneum to the gall-bladder, as the latter was practically destroyed by suppuration; drainage, with sponge-packing, was resorted to, to prevent general peritoneal infection. Mr. Robson remarked that operations performed on the strength of symptoms alone (no tumor being present) were not always easy, as the gall-bladder was often very small and could only with difficulty be brought to the surface. In one of his cases it was shrunk to the size of the last joint of the thumb, and was lying very deeply under cover of the liver, so that when he had incised it and removed several gall-stones from the duct, the lower part of the opening could not be made to reach the parietal peritoneum, and a piece of omentum was brought up and sutured on the one hand to the gall-bladder, and on the other to the parietal peritoneum, thus shutting out the general peritoneal cavity. Mr. Robson said he thought that omentum-grafting would often be found useful in abdominal surgery. It was first proposed by Dr. Sena for enterorrhaphy, but had not, he thought, been hitherto performed to overcome a difficulty of the kind he had met with.

Dr. Churton said he had undertaken a number of observations, in the post-mortem room and elsewhere, and had noticed that in most cases where the gall-bladder was small and closely packed with gall-stones, these could be reached by a needle through the liver. He had noticed that it was rare for a gall-bladder containing much mucus to have more than one stone in it. The thickening sometimes present in the neighborhood of the gall-bladder often looked much like cancer, and he had seen more than one operation abandoned on that account. Mr. Knowsley Thornton remarked on the difficulty of distinguishing between a distended gall-bladder and a tumor of the kidney. The most difficult cases were those in which there was thickening or suppuration around the gall-bladder. In one case he had cut through an inch and a half of thickened tissue, wondering all the time whether it was malignant. It was wonderful how rapidly this thickening cleared up after operation. The proposal to make the bile-duct open into the intestine he regarded as monstrous, and not one to be resorted to under any circumstances. Mr. Barker referred to a case in which he had operated for "impacted gall-stones" (diagnosed by two well-known physicians) and found nothing abnormal beyond a slight adhesion to the liver; the patient, however, had no more symptoms after the operation. Mr. Black alluded to a case in which there was jaundice, and which had been diagnosed as gall-stones, which turned out to be lead-poisoning. Several other gentlemen also took part in the discussion.

At the Medical Society of London, on Monday evening last, a discussion took place on diabetes and glycosuria, led off by a paper by Dr. Ord on "Some Obscure Points in Connection with Glycosuria." Dr. Ord laid special stress on gout, nervous strain and irritability, and bad habits of life—particularly chronic alcoholic indulgence—in the etiology of glycosuria. He also claimed that there existed some distinct corelationship between obesity and glycosuria, and between cardiac valvular disease and the same disorder. Some cases of glycosuria, occurring in association with Raynaud's disease, were mentioned. In all his cases of glycosuria, plus syphilis, he had been enabled to detect signs of hepatic disorder, but he was unable to formulate any definite conclusions therefrom, and he deprecated concentrating the attention upon the liver in considering the nature of glycosuria. Several cases of glycosuria in association with angina pectoris were referred to.

Dr. Pavy questioned the existence of any connection between obesity and glycosuria, but agreed that glycosuria was often associated with an enlarged or contracted (granular) kidney; the influence of the latter, however, was rather to diminish the amount of sugar in the urine. There was an analogy between the gangrene of diabetes and Raynaud's disease, and he mentioned cases in which glycosuria was associated with exophthalmic goitre. He declined to locate the seat of diabetes in the liver. Dr. Ralfe also thought we should look beyond malassimilation by the liver. The association of the disease with angina pectoris might be accounted for by diabetes leading to arterial and cardiac changes ending in degeneration. Dr. Savage observed that while both diabetes and insanity were directly hereditary, and it was common in insane persons to get a history of diabetes in the parents, yet it was rare to meet with glycosuria in cases of insanity (except puerperal insanity). Dr. Samuel West thought granular kidney rarely coexisted with diabetes. Sir William Roberts said that the variety of diseases with which glycosuria had been shown to be associated proved that they were still far from having grasped the essential

nature of the disorder. Dr. Mitchell Bruce suggested that some cases of diabetes were due to peripheral neuritis. Dr. Maguire thought that though gout might be the connecting link between some cases of granular kidney and glycosuria, yet there was a connection between diabetes and a certain degree of granular kidney in which no gouty element was present. When albuminuria occurred in diabetes it indicated a hardening of the kidney, and did not suggest a bad prognosis; it was, on the contrary, likely that the condition of the patient would improve.

The newly constituted governing body for London (The London County Council) has decided to apply to Parliament for powers to be given to the metropolitan vestries and district boards to enable them to inspect the drains beneath houses and to execute such works as may be necessary.

It is estimated that the inquiry being carried on by the Royal Commission on Vaccination will last about two years. It is to be hoped that the results may repay such an expenditure of time and labor.

New antiseptics seem ever to the fore. Sir Joseph Lister is to deliver an address at the Medical Society, on Monday next, on "A New Antiseptic Dressing." As new antiseptic methods seem so constantly needed, one cannot help making the reflection that the old ones cannot be wholly satisfactory. But perhaps this is unjust.

## OUR PARIS LETTER.

(From our Special Correspondent.)

IMMUNITY FROM MICROBIC INFECTION—DIABETES AS INFLUENCED BY THE CONDITION OF THE PANCREAS—THE MOVEMENTS OF THE TRACHEA—FATAL ACUTE HYDRARGYRISM—THE CAUSES AND PROPHYLAXY OF TUBERCULOSIS—THE TRANSMISSION OF SYPHILIS THROUGH SURGICAL INSTRUMENTS—INJURIOUS EFFECTS OF MILK DIET IN DIABETES.

PARIS, November 8, 1889.

AT the last meeting of the Academy of Sciences, Professor Bouchard read a memoir on the influence and the mechanism of the local lesion. His researches were made in conjunction with Dr. Charrin. The experiments undertaken established that among refractory animals, many of them destroy the microbes and thus create a localized inflammation. Dr. Bouchard then analyzed a work by Drs. Charrin and Roger, relative to the influence of the serum on the development of microbes. These experimenters show that, in the serum of diseased or vaccinated animals, the pathogenic microbes are developed less easily than in the serum of healthy animals. Not only are the microbes affected in their function of reproduction, but their functions of secretion are notably diminished, and are sometimes even suppressed, in the liquids of diseased or vaccinated animals. Even the form is altered. It results from this work that immunity partly consists in chemical modifications.

At the same meeting a work by Dr. Dujardin-Beaumetz, entitled "Pancreas and Diabetes," was submitted. This memoir was published some time ago, but the author wished to submit it to the Academy because it contained considerations which have been recently confirmed by authors in other countries. Dr. Dujardin-Beaumetz had already maintained several years ago that glycosuria resulted from the total or partial suppression of the pancreas.

Dr. Nicaise recently published a note on the movements of the trachea, which he studied by graphic tracings. He observes that formerly it was thought that there were constriction and shortening during expiration, and, inversely, dilatation during inspiration; but, according to the author, it is just the contrary which is the case.

Dr. Legrand publishes, in the *Annales de Gynécologie*, a case of fatal acute hydrargyrism, resulting from two intra-uterine injections of a 1 per 2,000 solution of corrosive sublimate. The author states that this case may be added to a certain number of others recently published, and showing that the employment of these injections after parturition may frequently be followed by death. In the case under notice, only two injections were practised, at an interval of three hours, with ten litres of the mercurial solution as above indicated, the recipient being placed about one metre above the level of the bed. This injection was followed by one of boric acid. The next day, the first phenomena of intoxication manifested themselves, and death took place three days later. The autopsy showed the existence of characteristic lesions in the intestines. Dr. Legrand believes that in this case the intoxication was produced by the penetration of the sublimate direct into the circulation. The retention of the placenta in a little-developed uterus probably favored the gaping of the uterine sinuses. A slight pressure caused in a very short time the penetration of the fatal dose of the poison. The practical conclusion is, that the corrosive sublimate, even in weak solution, should be employed for intra-uterine injections with great circumspection. Its use is dangerous, particularly when there is retention of the placenta in the uterus incompletely developed, as in cases of abortion. In any case, it is prudent to make only feeble pressure, exactly determined, and never surpassing a column thirty centimetres high. Finally, the free escape of the liquid should be attended to with great care.

In the debate that has been going on at the Academy of Medicine on the causes and prophylaxy of tuberculosis, Dr. Lancereaux spoke of the influence of alcohol on this affection. He stated that the effect of alcohol on the organism, in retarding metabolic changes and checking combustion, diminishes the appetite, and renders the tissues an easy prey to the attack of the tubercle bacillus. Tuberculosis in alcoholic subjects always presents about the same features. It usually begins on the right apex behind, though this localization is not altogether special to this form of disease. Hæmoptysis is often an early symptom, and tends to recur. In certain cases it is the first symptom to be met with in persons of apparently robust health, indicating the advent of the disease which is shortly to carry them off. The course of the disease is often very rapid, though intermissions are occasionally met with.

Some time ago Dr. Lancereaux brought to the notice of the Academy the possibility of the transmission of syphilis through surgical instruments. This he has just demonstrated by a note on two cases, which he read at the meeting of the Academy this week. In the first case, the patient had been inoculated by an aurist who had several times practised catheterization of the Eustachian tube. Dr. Lancereaux observed that this was not the first time that such an accident occurred, and that it will not be the last if the specialists do not take the trouble to minutely disinfect their instruments. In the second case it was a lady, who was infected by a dentist who had practised on her a certain number of operations for the fixing of artificial teeth. Dr. Lancereaux here remarks that not only dentists, but also hair-dressers and barbers, should disinfect their instruments, and the employment of a disinfecting solution should be ordained by law. In fact, the same may be applied to all surgeons, as among them some are not scrupulously particular in this respect.

In a note on the injurious effects of the milk-diet in diabetes, Dr. Mascarel relates the case of a patient, a man aged forty-eight, who for a year past had been suffering from rheumatism and herpes, associated with an intolerable thirst, to assuage which he had been advised to drink large quantities of raw milk (four or five litres in the twenty-four hours). He was emaciated and the tongue was coated. He complained of anorexia, constipation, and a dry, hot skin. The pulse was small, 100. The secretion of urine was excessive, and the urine itself was clear and free from albumin. A few days later he was found dead in bed. At about the same date a young man of twenty-seven was in the habit of drinking from four to six litres of milk daily to assuage his thirst. This

patient had been examined and found to be suffering from diabetes. After three weeks of the exclusive and excessive use of milk he died suddenly with cerebral symptoms. Dr. Mascarel concludes that the only circumstance in which diabetics should be ordered milk is when the urine is found to contain albumin as well as sugar.

## THE JOHNS HOPKINS HOSPITAL AND THE DISPENSARY ABUSE IN BALTIMORE.

To the Editor of The Medical Record.

SIR: Your notice on page 487 of THE RECORD is not unsurprising, and the great "Johns Hopkins Hospital" is possibly *not* an "unmixed blessing" to our profession; but the members thereof have themselves alone to blame in the matter. *Tempora mutantur, et nos mutamur in illis*—Massaria, who "preferred to err with Galen rather than be in the right with someone else," has indeed passed away; but abject devotion to authority still shows itself in our own as well as in other callings—simply as the result of habit rather than reflection. The "Johns Hopkins" was long in process of incubation, and each step in its progress, from the embryo to the fully developed mastodon, was duly noted, discussed, and examined, and finally earnestly indorsed and recommended by the regular profession as the *summum bonum* of everything that might conduce to the best practical application of *that art* to which all appeal for health, strength, and life. These are unquestionable facts; and there should therefore be no complaint when the new-comer, duly and truly prepared, having all the testimonials of merit that name and fame can give, goes right to work, like a regular South Sea Islander, and deliberately eats up and devours his own progeny and progenitors, without the slightest compunction—and finds plenty of food.

Respectfully yours,
B. F. GROVE, M.D.

209 East Preston Street, Baltimore, Md.,
November 4, 1889.

## Army News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 10 to November 16, 1889.*

MACAULEY, C. N. B., Captain and Assistant Surgeon. Granted leave of absence for one month, to take effect about the 29th instant. Par. 2, S. O. 166, Department of the Missouri, Fort Leavenworth, Kan., November 8, 1889.

MAUS, LOUIS M., Captain and Assistant Surgeon. By direction of the Secretary of War, having relinquished the leave of absence on surgeon's certificate of disability, granted him in S. O. 249, October 25, 1889, from this office, will, upon being relieved from duty at Fort Porter, N. Y., as directed in S. O. 242, October 17, 1889, from this office, proceed without delay to Fort Stanton, N. M., and report in person to the commanding officer, Department of Arizona. Par. 8, S. O. 261, Headquarters of the Army, A. G. O., Washington, November 8, 1889.

CRAMPTON, L. W., Captain and Assistant Surgeon. From Fort Lyon, Col., to Fort Sheridan, Ill. Par. 3, S. O. 167, Headquarters Department of the Missouri, Fort Leavenworth, Kan., November 9, 1889.

CORBUSIER, W. H., Captain and Assistant Surgeon. From Fort Hays, Kan., to Fort Lewis, Col. Par. 3, S. O. 167, Headquarters Department of the Missouri, Fort Leavenworth, Kan., November 9, 1889.

IRES, F. J., First Lieutenant and Assistant Surgeon. From Fort Lyon, Col., to Fort Sill, Ind. Terr. Par. 3, S. O. 167, Headquarters Department of the Missouri, Fort Leavenworth, Kan., November 9, 1889.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 16, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 33 | 11 |
| Scarlet fever | 34 | 2 |
| Cerebro-spinal meningitis | 2 | 1 |
| Measles | 34 | 3 |
| Diphtheria | 76 | 16 |
| Small-pox | 0 | 0 |
| Yellow fever | 0 | 0 |
| Cholera | 0 | 0 |

THE PATHOLOGY OF HEART-FAILURE.—In a paper read before the British Medical Association on the subject of cardiac failure, Dr. Mott insisted that the whole circulatory system must be taken into account in considering this important subject, not only in the cardio-vascular system, but in the contained blood also. In all cases of failure of the circulation there was some alteration in the nutrition of the cardio-vascular system. The heart itself, which acted as the force-pump, was in every case disorganized. In myocarditis, fatty degeneration, and some other conditions there was usually coronary obstruction. This was very important, as in forty-nine out of fifty cases examined there was organic disease of the myocardium. It was necessary to examine the coronary arteries, not only at their openings into the coronary sinuses, but also for some distance from the mouth, as it was frequently found that there was constriction at as much as one inch from this point. In partial obstruction the degeneration was not usually fatty, but was often merely a part of a widespread degenerative process associated with chronic inflammation, affecting the cardio-vascular system, especially the heart and kidneys. In these cases the termination was not sudden, and was quite different from those cases in which there was sudden failure from imperfect filling of the cerebral and coronary vessels, as when the patient sat up suddenly. In most of the cases of complete obstruction of a principal branch of one of the main trunks, with partial occlusion of the other, there had been a syphilitic history. Of five such cases four had died suddenly from syncope due to fatty degeneration of the myocardium. Dr. Mott then discussed the conditions met with in chronic alcoholism, in which there was no affection of the coronary arteries, but in which fatty degeneration had been followed by sudden and fatal syncope. In cases of fatty degeneration he pointed out how the arrangement of the muscles led to imperfect action of the valves—the musculi papillares, in which the process is best seen, being the continuation of the figure-of-eight bundles of muscular fibres in the walls of the cavities of the heart. This explanation might be readily adapted to Mr. Williams' theory of "delirium cordis." In no case was it sufficient to make a diagnosis without the aid of the microscope, and he recommended that osmic acid or Pal's modification of Wright's method should always be used in order to determine the amount and distribution of fatty degeneretion in the myocardium. Fatty degeneration alone did not produce angina pectoris, as was evidenced from those cases of pernicious anæmia in which the fatty degeneration was well marked, but where there was no angina at any stage of the disease. A description of acute and chronic myocarditis was given, and it was pointed out that the former was invariably associated with acute fatal pericarditis.—*The Lancet.*

SENILE CHANGES IN THE BONES.—In the *Illustrated Medical News*, March, 1889, Professor Humphry contributes an article on the changes in the bones in old age, and illustrates his remarks with some valuable illustrations. To the naked eye these changes consist in an ab-

sorption of the cancellous structure, commencing in the parts which are most cancellous, that is, where the bony plates are thinnest, where the marrow is most abundant and most vascular, where the leucocytic and other agents in absorption are most abundant, where, accordingly, we might expect the processes of absorption to be most ready to take advantage of any failure in the nutritive and resisting qualities of the bony tissue. In the early condition the several parts of the skeleton are solid; as they become hardened and added to at the exterior they become hollowed out in the interior into cancellous spaces, medullary canals, and air-containing cavities; this change continues through life in gradually diminishing degree; and, as old age advances, the subtraction from the interior exceeds the addition to the exterior, and the bones gradually decrease in weight and strength. The muscles at the same time become weaker, so that it is almost as rare to have a spontaneous fracture of a bone from muscular action in old age as it is in youth or middle age. The author shows by diagrams how in old people the head of the femur becomes thinned and liable to fracture. This predisposition to absorption in the cancellous parts is met with in the ends of the long bones in all aged people, which causes their liability to fracture. The tendency to absorption of the cancellous parts of the skeleton is also seen in the alveolar processes of the jaws, whereby the teeth are loosened and often drop out. In the body of the lower jaw these changes are very marked; the thin lower bar alone remains with the mental foramen upon or near the upper edge; in the upper jaw alveolar processes become, in course of time, completely cleared away; the level of the palate is continued to the margin of the bone, the whole maxilla (the walls of the antrum more especially) becomes very thin, and the nasal spine and the cheek-bones are left outstanding in relatively strong relief. An exception to the progressive cancellous absorption and diminution of weight in the bones of old people is not infrequently to be found in the skull, more particularly in the calvarium. This part in some cases becomes very thin and light, in others it becomes thicker from deposit on the interior, consequent, probably, on the lessening of pressure upon it associated with the brain-shrinkage of age; in some of these latter cases it is very porous, the diploe being increased; in others, however, it is dense and heavy, as well as thick, the diploe being encroached upon and perhaps obliterated. The contrast in some cases presented by the thick heavy calvarium, and the thin light facial bones, is very striking, the skull of many old people weighing many ounces over the average; and this is due to increased thickness and density of the bones enclosing the cranial cavity. This senile thickening and "senile sclerosis" differ from the changes in osteitis deformans, inasmuch as they affect the interior of the skull and the diploe rather than the exterior. So far as the author knows, the cranial wall is the only part of the skeleton in which this process occurs. The increased density and weight of the skull when the rest of the skeleton is becoming less fitted to bear weight is a strange and not easily intelligible anomaly.—*Medical Recorder.*

Incompatibility of Antipyrine and Chloral.—M. Blainville, a pharmacist of Paris, was called upon to put up a prescription containing four grammes of antipyrine and five of chloral hydrate in fifteen grammes of water. An oily precipitate was immediately thrown down which resembled neither chloral nor antipyrine in taste, but recalled somewhat that of coriander-seed. A mixture of antipyrine and quinine is also incompatible, both substances being at once precipitated from the solution.

The Tri-state Medical Association, recently organized by the physicians of Georgia, Alabama, and Tennessee, held its first annual meeting in Chattanooga, Tenn., on October 16 and 17, 1889. The meeting was called to order by Dr. Wise, President of the Chattanooga Medical Society. After a prayer by the Rev. Dr. J. W. Bachman, the address of welcome was delivered by Dr. G. W. Drake. The following sessions were devoted to the reading and discussion of scientific papers. The election of officers resulted in the selection of the following: President, Dr. J. B. Cowan, of Tullahoma, Tenn.; First Vice-President, Dr. A. Boyd, of Scottsborough, Ala.; Second Vice-President, Dr. James B. Edge, of Demond, Ga.; Third Vice-President, Dr. Lelwellyn Barber, of Tracy City, Tenn.; Secretary, Dr. Frank Trester Smith, of Chattanooga, Tenn.; Treasurer, Dr. B. S. Wert, of Chattanooga. The next meeting of the Association will be held in Chattanooga on October 21, 1890.

Double Parotitis of Reflex Origin.—At a meeting of the St. Petersburg Naval Medical Society, Dr. Milonas communicated the following curious case. An exceedingly nervous and emaciated recruit, aged twenty-two, fell ill with a severe attack of right-sided croupous pneumonia. On the third day there supervened incontinence of urine, alternating with retention, while on the ninth there developed a prostatic abscess, determining a complete prolonged retention, and necessitating catheterization. The latter proved to be extremely difficult, since, on one hand, any attempt at introducing the instrument into the urethra gave rise to general clonic convulsions, while, on the other, the end of the catheter deviated from the urethra into the prostatic abscess. Several hours after those repeated and prolonged manipulations there suddenly appeared rigor and pain about the right temporal region, which were swiftly followed by intense swelling of the corresponding parotid, rapidly passing into suppuration. The patient's micturition being at the time restored, no catheter was used for the next six days. On the seventh, however, another prolonged attack of retention of urine took place, and catheterization was again resorted to. It was most rapidly followed by the development of a left-sided suppurative parotitis. The patient ultimately recovered, though but very slowly. Analyzing his case, Dr. Milonas comes to the conclusion that on either occasion parotitis was caused in a reflex way by the said intense irritation of the patient's genito-urinary tract. During a discussion Dr. Balinsky adduced three similar instances of reflex parotitis from his own practice, all referring to women. In one of the patients, who had undergone some operation for vesico-vaginal fistula in the morning, the subsequent insertion of a catheter *à demeure* was followed at nightfall by swelling of one of her parotids. In another, suffering from uterine flexion, the introduction of a sound into the womb gave rise on each occasion to a rapid painful enlargement of the gland. In the third, parotitis developed shortly after the amputation of the womb, preceded by the introduction of a catheter into the bladder.—*The Journal of Laryngology and Rhinology.*

A Second Sarah.—Under this caption the St. Louis *Post-Dispatch* of October 15th prints the following special from Fort Smith, Ark.: "Yesterday a woman living in the mountains here, named Sarah Gates, aged seventy-one, proved herself a second Sarah by giving birth to a well-formed and healthy male child. Two years ago Mrs. Gates, then a widow, married William Gates, a young hired hand on her farm. The case is exciting a good deal of interest among physicians." A correspondent from Little Rock suggests that this remarkable tale be investigated by some of the Fort Smith physicians, who are said to be interested in the occurrence. We should be glad to hear from anyone who has any knowledge of the actual facts in the case.

Gonorrhœa in a Boy Five Years of Age.—Dr. Custer, of Manayunk, Pa., reports in the *Medical and Surgical Reporter* of October 19, 1889, the case of a boy, aged five, who was brought to him for treatment on account of an aggravated case of gonorrhœa. The boy was remarkably well developed for his age, and investigation showed that he had been sleeping with a young woman who was suffering from leucorrhœa.

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## Original Lectures.

### ON VITAL AND MEDICAL STATISTICS.[1]

BY JOHN S. BILLINGS, M.D.,

UNITED STATES ARMY.

#### LECTURE. I.

I PROPOSE in these lectures to speak of vital and medical statistics, and of some of their relations to each other and to scientific and practical medicine and sanitation. The discussion will include such points as, character of the data required; methods of obtaining them by the census, by registration, and in other ways; relations of physicians to this kind of work; methods of compilation and forms of publication; the best existing sources of such data; and some of the more common fallacies in drawing conclusions from the data as ordinarily published.

These and other points will be considered in their practical application to certain questions which, I hope, may be of interest to you, both as citizens and as physicians—as, for example: Is the average longevity of man in civilized countries increasing? What data are required to practically judge of the relative healthfulness of different localities, or of the same locality at different times? What are the relations of certain forms of disease to race, to climate, to locality, to occupation? What is the relative tendency to increase of population in this country in the white and colored races? What is the statistical evidence with regard to improvement in practical therapeutics as arrived at from hospital data, from death-rates in obstetric practice, etc.?

Statistics, and discussions of statistical methods are, as a rule, dry and uninteresting subjects, and it is with very considerable doubt and hesitation that such a topic has been selected for these lectures. I have no new discoveries to announce, and those who are practically familiar with statistical research will find some of my statements rather elementary; but the subject is not one which lies within the ordinary range of medical studies, the data are widely scattered in literature, and I hope, at least, to be able to remind you of some of the numerous points which you may have once known, but which may have been forgotten owing to the pressure of other studies and duties.

Statistics are somewhat like old medical journals, or like revolvers in newly opened mining districts. Most men rarely use them, and find it troublesome to preserve them so as to have them easy of access; but when they do want them, they want them badly.

The use of statistics may be compared to that of the microscope or the spectroscope, as pointed out by Mr. Hooper.[2] He says:

"It is found convenient to speak of the science of Spectrum Analysis, and of Microscopical Science, because complicated scientific instruments require that their users should understand them and be able to adjust them, and the knowledge which enables the operator to use his instrument and put it in order is important enough to be termed scientific. In this sense it might be possible to speak of a Science of Statistics. The knowledge suitable for the purpose of practising the art of Spectrum Analysis covers a wide field, necessitating a study both of the instrument itself and the phenomena which it reveals; and the same may be said of the knowledge needed for successfully practising the art of statistical analysis, and in this sense this knowledge may be termed scientific"

If we choose to accept the definitions of French, German, and many English writers, the term will include a large part of sociology.

Circumstances have made it necessary for me to endeavor to ascertain the character and amount of the statistical data which have been published, and which are available for those who wish to make special studies of the relative frequency of certain diseases, deformities, or disabilities; of their causes and results, especially as to mortality; or of the relations which exist between disease and death, and such conditions as sex, age, race, soil, climate, occupation, etc.; and in the course of this investigation it has seemed to me that many physicians are not as familiar with statistical methods, and with existing sources of information relating to vital statistics, as it is desirable that they should be to enable them to judge properly the value of the arguments and conclusions presented by those who make use of such data, even though they themselves may have no desire or intention to use statistical methods of research.

There are many fallacies and errors connected with vital and medical statistics as ordinarily collected and used, and it is highly desirable that the physician should be aware of the more important of these, since he is constantly appealed to for decisions as to their true significance and value. "It is as easy to tell lies with figures as with words, and bigger ones;" but while we occasionally meet with deliberate falsifications of the records, made for the purpose of magnifying or diminishing the apparent mortality or prevalence of a particular disease in a given locality, or to maintain an anti-vaccination thesis, these are not so frequent as are the errors of involuntary misstatement and misinterpretation into which those not familiar with methods of collecting and tabulating statistics are so liable to fall. Those who are not familiar with the methods of obtaining and compiling statistics of this kind are apt to be either unduly credulous or unreasonably sceptical as to their real use and value—to use the first figures which come to hand, and thence derive conclusions which are not warranted, or to reject the plain teaching of carefully compiled statistics in favor of general assertions which have no firm foundation, but which are in accord with preconceived opinions. My experience with those seeking statistical data is that the majority begin by looking for those data which are in favor of some particular conclusion with which they commence, rather than by selecting data with reference to their probable completeness and accuracy, and accepting the conclusions which may be legitimately drawn from them, whatever they may be.

Those who are engaged in the collection and compilation of official mortality and vital statistics are often at first the most sceptical as to their accuracy and utility, for their attention is so frequently and forcibly drawn to errors in the individual data that they conclude that the whole mass is unreliable; and the difficulties in the way of obtaining complete and reliable figures are seen to be so great that they incline to give up the whole matter in de-

[1] The Cartwright Lectures, delivered before the Alumni Association of the College of Physicians of New York, November, 1889.

[2] The Method of Statistical Analysis. A paper read before the Statistical Society of London, by Wynnard Hooper, B.A., January 18, 1881. Statistical Society of London, Journal, vol. xliv., p. 31.

spair. Continued study of the subject, however, shows that many valuable conclusions or suggestions can be derived from imperfect data, and that in large masses of figures the errors either tend to neutralize each other, or to produce a constant effect in one direction which can be calculated and allowed for, so that those who have had the greatest experience are most convinced of their value. It is true that, in statistics, the inferences cannot be more accurate than the data on which they are founded, but we do not look for scientific exactness from them so much as for an estimate of probabilities.

The methods which we have for advancing our knowledge of the laws of human life, of the causes of abnormity, disease, and death in man, and of means of sanitation or therapeutics, may be grouped into two classes, viz., observation and experiment—which, however, are often combined.

In the experimental method we seek to make a direct test of the variation of one particular condition, or set of conditions, upon the living organism, all other conditions being kept uniform as far as possible. Some such experiments can be made on man, but the greatest number of the problems which we may hope to solve by this method, and among these the most important, can only be approached by experiments on the lower animals. Within the last twenty years experimental physiology and pathology have made great advances, and these methods, so far as they are applicable, give more definite results, and are more immediately satisfactory, than those derived from comparison of observations in which no definite experimental variations have been made; but so far as regards causes of disease, or the action of supposed methods of prevention, or of remedies, it is unfortunately the case that we cannot draw accurate conclusions as to what will happen in man from what is observed to happen in animals. In the first place, there are many forms of disease in man, and those among the most important, as regards the suffering and loss of productive power and of life which they produce, which cannot, with our present knowledge, be experimentally produced in animals, and which rarely or never occur in them.

For example: Yellow fever is a disease which, from analogy, we have reason to believe may be due to the action of one or more specific micro-organisms, or, perhaps, I should say, to the products of such organisms. We find a dozen different kinds of bacteria in persons suffering from yellow fever, and, by dint of much labor, these have been isolated and cultivated outside the human body. The problem is to determine positively, and with scientific precision, which, if any, of these is the true, essential cause of the disease. The mode of doing this is by producing the disease in a perfectly healthy person or animal by the inoculation of the suspected organism. But, thus far, we have failed to find any animal in which a disease, which can be considered as specifically identical with yellow fever, can be produced by any method; and I need hardly tell you that inoculations of such a disease as this in a human subject, under conditions which would make the results of such inoculation scientifically trustworthy, are impracticable and unjustifiable.

Those forms of disease which are common to animals and man, such, for instance, as anthrax, tuberculosis, tetanus, hydrophobia, the ordinary forms of suppuration, and, perhaps, also typhoid fever, are being pretty thoroughly worked out by means of such experimental inoculations as I have just referred to; and we are able to say, with a great degree of precision, not only that these diseases are due to specific forms of bacteria, but to determine enough of the characteristics of these forms to be able to identify them wherever they are found.

For the great majority of diseases, however, this experimental method of determining the causes, and therefore, necessarily, experimental methods of prevention and treatment, cannot be employed in such a way as to distinctly isolate the effect of the particular agent or circumstance which we are investigating, and we must therefore resort to the other mode of advance of knowledge which has been referred to, namely, that of observing the phenomena as they occur in man, and endeavoring to so group the results of these observations as to determine the influence of a particular condition or set of conditions while all other circumstances remain uniform.

This method of observation may, for our purposes, be again divided into two categories. The first is that which is used in individual cases, being the form applied by the physician to each case which he has to treat. It also includes the sort of investigation which may be made in a single household, a small community, or a thinly populated district, to determine the course and cause of a particular form of endemic or epidemic disease, where the conditions affecting each family or dwelling can be studied in detail somewhat as the detective of modern fiction follows his clews. By the combination and comparison of detailed studies of this kind the greater part of our present system of diagnosis, prognosis, and therapeutics have been evolved; but it has been and will be a slow process, for each man differs from every other man in structure and mode of function, and the conditions of the environment are so multiform, and so variable in space and time, that "experience is doubtful, and judgment difficult." We must therefore try to supplement the information thus obtained by that derived from the second kind of observation above referred to, namely, that of collecting a few data with regard to great numbers of people, especially where these are accumulated in thickly settled localities, forming what is called the statistical method as applied to different communities. By the first method we compare individual with individual, and do so with considerable minuteness of subdivision of the conditions studied; by the second method we compare the vital phenomena of communities with those of other communities, but only on broad lines and in relation to circumstances easily noted.

The object of vital statistics is to classify and arrange the facts relating to the quantity and character of human life under different circumstances, for the purpose of determining the effect upon it of each of these circumstances taken singly, or of two or more of them acting together. The results thus obtained form an important part of the scientific foundations of sociology, of political economy, and of preventive medicine. It deals with masses of men and not with individuals, and its conclusions are, for the most part, applicable only to large bodies of people; yet its data are derived from individual records, and its results are accepted in many cases as a sufficient guide for individual action. They do not, in this respect, differ essentially from most of the motives which actuate us in daily life. The farmer sows his seed, the manufacturer builds his mills, the physician writes his prescriptions, and you come to hear this lecture from motives of probability; not carefully formulated in most cases, or capable of expression by a formula, but, nevertheless, in accordance with the doctrine of chances as determined by previous experience.

The term "vital statistics," in the sense in which I use it in these lectures, corresponds almost precisely to the French term "démographie" or the German "demologie," being applied to the circumstances of human life only, in the sense of Korosi's definition that it is the science of the physical life of human society. We will first consider briefly the sources of information and the character of the original data available for this study; second, the methods of arranging and using these data; and, third, the value and applicability of some of the conclusions which may be drawn from them, especially in that branch known as medical statistics.

The essential data of vital statistics are derived from enumerations of the living population and from records of births, marriages, and deaths.

The numbering of the people is effected by a census, a term derived from the Roman Censors, a part of whose duty was to make such counts. Such enumerations

*Table Showing the Data Collected in the Censuses of Different Countries.**

*A.* Essential Requirements Recommended by the International Statistical Congress of St. Petersburg.

| | Finland. | Sweden. | Norway. | Denmark. | Germany. | Prussia. | Bavaria. | Saxony. | Würtemburg. | Baden. | Hesse. | Oldenburg. | Mecklenburg. | England and Scotland. | Ireland. | Netherlands. | Belgium. | France. | Spain. | Italy. | Switzerland. | Austria. | Hungary. | Servia. | United States. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | December 31, 1865. | December 31, 1870. | December 31, 1875. | February 1, 1880. | December 1, 1875. | December 1, 1880. | December 1, 1875. | December 1, 1875. | December 1, 1875. | December 1, 1875. | December 1, 1875. | December 1, 1875. | December 1, 1875. | April 2, 1871. | April 2, 1871. | December 1, 1869. | December 31, 1866. | April and May, 1866. | December, 1876. | December 31, 1877. | December 31, 1871. | December 1, 1870. | December 31, 1869. | December 31, 1880. | December 31, 1869. | December 31, 1880. | December, 1874. | June, 1, 1870. |
| *a.* Name | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| *b.* Sex | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| *c.* Age | 1 | A | A | 1 | A | J | J | J | A | A | A | A | A | 1 | 1 | J | J | A | A | 1 | 1 | J | A | A | 1 | J | 1 | 1 |
| *d.* Relation to head of family | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. |
| *e.* Civil condition | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| *f.* Occupation | 1 | 1. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| *g.* Religion | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 | 1 | .. | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. |
| *h.* Language | 1 | 1 | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 1 | .. | 1 | .. | 1 | .. | 1 | .. |
| *i.* Can read or write | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | 1 | .. | .. | 1 | .. | .. | .. | 1 | 1 | 1 | 1 |
| *j.* Legal residence | .. | 1 | .. | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | .. | .. | .. | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | .. | 1 | .. |
| Place of birth | .. | 1 | 1 | 1 | .. | 1 | .. | 1 | .. | .. | .. | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 |
| *k.* Present residence | .. | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 | 1 | .. | .. | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | .. |
| Residence during absence | .. | .. | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 | 1 | 1 | .. | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | .. |
| Ordinary residence | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | 1 | .. | .. | .. | .. | .. | .. | .. |
| *l.* Blind | .. | 1 | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 |
| Deaf-mute | .. | 1 | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | 1 |
| Idiot or Cretin | .. | 1 | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | 1 | .. | 1 | 1 | .. | .. | 1 | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | .. | 1 |
| Insane | .. | 1 | 1 | 1 | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | 1 | .. | .. | 1 | 1 | 1 | 1 | .. | 1 | 1 | 1 | 1 | .. | 1 |

*B.* Other Requirements Recommended by the International Statistical Congress.

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Auxiliary occupation | .. | .. | .. | .. | 1 | .. | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | 1 |
| Grave diseases | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. |
| Pupil in Primary school | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | 1 | .. | .. | .. | .. | .. | .. | .. | .. |
| Kinship of wife | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| Foundling | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |

* Korosi, Joseph: Projet d'un recensement du monde étude de Statistique Internationale, Paris, 1881, pp. 42, 43.

were made by Moses (1490 B.C.), David (1017 B.C.); in Greece, 650 B.C.; and in Rome, beginning 566 B.C. They were probably made also in Assyria, but the Accad records have not yet been found. In modern times the first country to make a count was Sweden, in 1749. The first census in the United States was taken in 1790, as a necessary means of carrying out the constitutional provision that the basis of representation for the several States should be the number of the population in each. The first census in England was taken in 1801, and showed the number of persons, with distinction of sex, the number of houses, the number of families, and a rough statement of occupations under the general classification of agriculture, trade, manufactures or handicraft, and all others.

The first satisfactory English census, giving distinction of age, sex, occupation and birthplace, the number of persons blind and deaf and dumb, was the census of 1851. This was the first census whose data could be used in connection with the general system of registration of births and deaths.

The first attempts to take a census in a country have usually excited more or less suspicion and opposition, from fear that the information obtained would be in some way used to oppress the people. For example, several attempts to take a census have been made in Hayti but have always given rise to insurrection, and have always been defeated, owing to the belief of the people that it would in some way lead to their losing their liberty.

In the first censuses the object was to determine the number liable for military service or qualified to vote, or to fix rates of taxation, and the records were very brief. In the first United States Census the only data called for on the schedules were, names of heads of families, free white males over sixteen, free white males under sixteen, free white females, all other free persons, slaves.

The record of age was first made in the English Census in 1821, was omitted in 1831, and resumed in 1841. As the census records came to be more and more relied upon as a basis for legislation, additional details were introduced, and the above table shows those now included in the censuses of some of the principal countries of the world.

The relative importance of each of these details in studies of vital statistics varies greatly according to the purpose to which they are to be applied; but to physicians, sanitarians, and those interested in life insurance, the dominating factors are age, sex, and race. The power of reproduction, the tendency to death, and the liability to certain forms of disease, vary greatly at different ages in the two sexes, and this gives rise to corresponding variations in the disease- and death-rates of populations of different localities, or of the same locality at different times, when these populations differ as to the relative proportion of young and old, or of male and female, which they contain. These variations we must ascertain if possible, and estimate the influence of, in order to make reliable and useful studies of the effects upon human life of climate, altitude, race, occupation, or other conditions of the environment. In the course of these lectures I shall often have occasion to refer to this dominating influence of age, and to point out errors due to neglect of this factor, which is by no means an easy one to determine for many places, at many times. Even the census data require corrections, since people do not give their ages accurately to the enumerators. The tendency is to answer in round numbers as, 20, 30, 40, etc., and to a less but still marked extent, as 25, 35, 45, etc.; but the effect of this can be done away with to a considerable extent by properly grouping the individual data, as I shall explain presently. Ages over 90 are largely overstated, and the ages of women between 25 and 50 are largely understated; but these errors, being comparatively constant, and influencing the data of all communities, do not lead to erroneous conclusions of importance in comparing different communities, if the distinction of sex be observed.

One of the most interesting fields of study in vital statistics is the relation of race and color to birth-rate, to certain forms of disease, or to the liability of death at certain ages.

This country is, as you know, the great mixing ground for different races of the human family, and, while the mixture is rapidly becoming so intricate as to make it impossible to distinguish the several strains, it is still true that there are in this country large groups of men of quite distinct races, the record of disease and death in which would form valuable material for study upon this point were it possible to collect them.

From the sociological and political point of view this is particularly the case with regard to the negro and to those having a mixture of negro blood; and in the Southern States such questions as the following are of great practical interest. Is the negro population increasing faster than the white? Is the proportion of mixed bloods, such as mulattoes, quadroons, etc., increasing in proportion to the general population? Are the fertility and expectation of life of mixed bloods greater or less than those of pure whites or pure blacks under the same circumstances of environment? We will return to these questions hereafter; at present I merely refer to them as being the probable reason for the introduction into the law for taking the next census of a special clause providing "that the population schedule shall include an inquiry as to the number of negroes, mulattoes, quadroons, and octoroons," an attempt to obtain information which has not heretofore been sought in this way. In obtaining the records of deaths occurring during the census year beginning June 1, 1889, an effort will be made to have the deaths of colored persons distinguished into those of pure negroes and those of mixed blood. It will probably be impossible to obtain the data for either living population or deaths with the minuteness of subdivision indicated by the words "mulatto," "quadroon," and "octoroon"; but there is reason to hope that in many sections of the country we shall be able to distinguish those of mixed blood from the pure blacks and the pure whites, and to give some opinion with regard to their diseases and death-rates. The results of the last census, although imperfect, show such marked differences as regards the mortality from certain diseases, not only between the whites and the blacks, but between those of English, Irish, and German descent, as to make it certain that it will be worth while to pursue this branch of inquiry more minutely as opportunity is offered to us hereafter. The following table, taken from the last census, indicates the difference in the proportion of deaths from certain causes to the deaths from all causes in the white and colored population in the South and in those of Irish and German parentage in the North.

| Deaths from— | White. | Colored. | Irish Parentage. | German Parentage. |
|---|---|---|---|---|
| Abortion | 0.9 | 1.4 | 0.5 | 0.8 |
| Accidents and injuries | 43.8 | 67.6 | 61.0 | 52.5 |
| Alcoholism | 2.5 | 0.7 | 6 7 | 2.7 |
| Cancer | 19.1 | 7.8 | 24.3 | 25.8 |
| Childbirth | 13.9 | 24.8 | 14.1 | 18.3 |
| Consumption | 126.2 | 139.1 | 198.4 | 123.6 |
| Croup | 26.1 | 21.8 | 15.1 | 23.2 |
| Diphtheria | 39.8 | 17.4 | 42.1 | 72.7 |
| Diseases of the bones and joints | 3.1 | 2.0 | 3.1 | 2.5 |
| Diseases of the digestive system | 46.8 | 49.6 | 43.8 | 47.1 |
| Diseases of the nervous system | 119.1 | 96.9 | 94.7 | 109 4 |
| Enteric fever | 33.9 | 31.7 | 17.4 | 29.6 |
| Heart disease and dropsy | 56.1 | 64.5 | 62.3 | 60.9 |
| Hooping-cough | 14.3 | 33.0 | 6.0 | 8.4 |
| Infanticide | 0.05 | 0.14 | ..... | 0.02 |
| Malarial fever | 30.7 | 48.3 | 12.9 | 14.1 |
| Measles | 9.1 | 17.7 | 5.3 | 8.5 |
| Peritonitis | 4.9 | 2.1 | 6.8 | 6.4 |
| Pleurisy | 2.7 | 3.7 | 2.9 | 2.6 |
| Pneumonia | 82.5 | 105.5 | 89.1 | 82.1 |
| Puerperal septicæmia | 12.6 | 10.2 | 12.5 | 15.7 |
| Scarlet fever | 20.9 | 3.9 | 24.0 | 30.1 |
| Scrofula and tabes | 6.2 | 16.0 | 2 7 | 2.6 |
| Still-born | 36.4 | 39 6 | 24.7 | 34.9 |
| Suicide | 3.2 | 0.5 | 2 7 | 7.2 |
| Tetanus and trismus nascentium | 3.1 | 9 3 | 1.6 | 2.2 |
| Venereal diseases | 1.7 | 3.0 | 1.4 | 1.3 |

The influence of race upon mortality is especially manifest in the death-rates of cancer. The number of deaths from cancer per 100,000 population in certain portions of the United States, with distinction of white and colored, was as follows: White, 27.96; colored, 12.67.

In the northern part of the United States the proportion of deaths from cancer in proportion to 1,000 deaths from known causes, with distinction of white, colored, Irish, and German parentage, was as follows: White, 19.1; colored, 7.8; Irish parentage, 24.3; German parentage, 25.8.

It will be seen from these that the liability to death from cancer is not half as great among the colored people as it is among the whites, and that there is a greater tendency to death from cancer in persons of German parentage than in all the average white population, especially between the ages of fifteen and sixty-five.

The relation of race to vital phenomena in general, and to disease- and death-rates in particular, forms one of the most interesting branches of what Galton calls the "science of heredity," but it is a branch in which little progress has yet been made, and for the study of which the United States offers greater opportunities than any other country. "The question of race influence is not merely an abstract matter fitted only for well-rounded periods in the discussions of the schools, but it profoundly affects vital and national life." It is a force which acts incessantly upon and menaces us, and, so far as we can now see, it is mainly upon the outcome of the distribution and prevalence of race that depend civilization, religion, and the future of man upon this earth. "In so far as the conditions of things tend to preserve the best types, progress is favored. In so far as they tend to destroy or to debase them with inferior types, progress is hindered. Not every mixture of race prevails, or persists, but there has been a certain amount of mixture wherever there has been progress in human affairs. Such mixture appears to have been a consequence rather than a cause, yet it may become an important secondary cause in changing or modifying the course of human events."

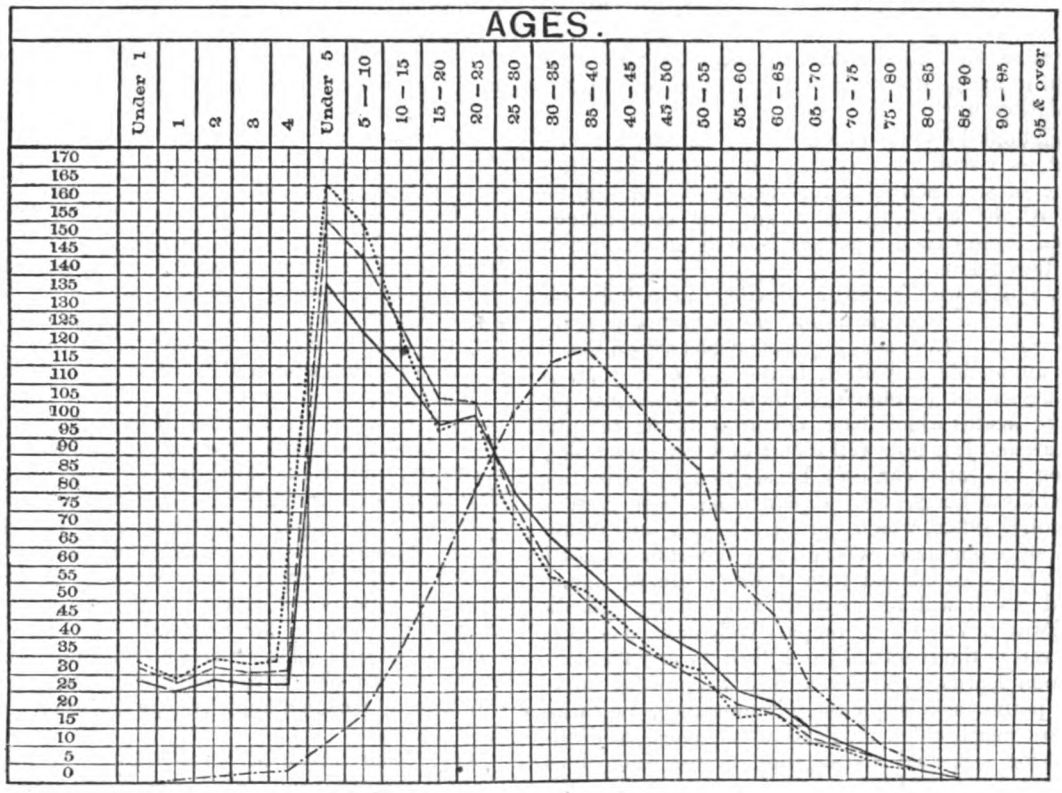
The census gives us a view of the population on a certain day, and, if well taken and properly compiled, it gives a general view of the stream of life as it flows on that day, with its variations of breadth and depth, from which it is possible to calculate, within certain limits, the velocity of the current, the rapidity of change, and the probable rate of increase or decrease, especially if comparisons can be made with the results of a previous census taken in the same way. It may also indicate periods of wide-spread disaster or of migration. For example, look at the diagram on opposite page, showing the proportions of the living population in 1880.

It shows that the decrease in the number living at each quinquennial group of ages was tolerably regular for the whole population for the native-born whites and for the colored as we proceed from the lower to the higher ages, as it should be under ordinary circumstances; but that there is one marked exception for the age-group 15 to 20, in which the line makes a sudden angle indicating a relative deficiency in the number of persons living at this age.

It will be observed, also, that the age-group in which there is the largest proportion of the foreign-born population is that from 35 to 40.

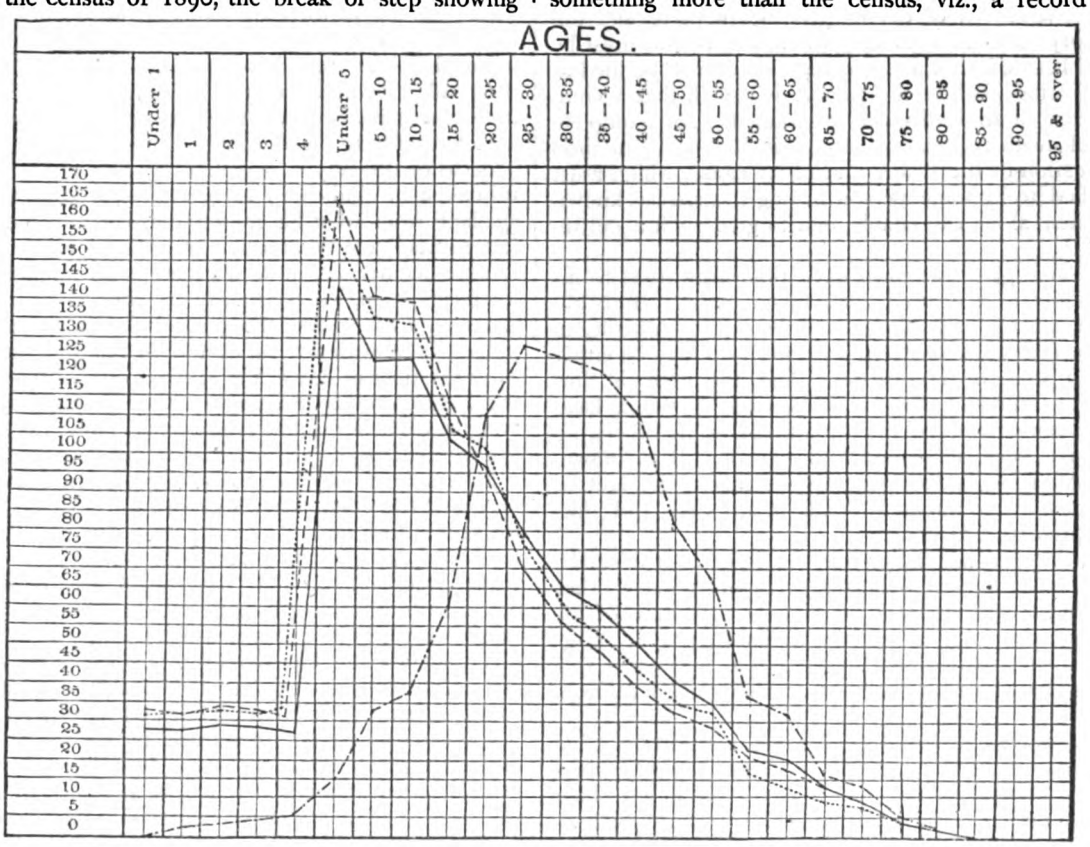
Now, if we compare this diagram with a corresponding diagram for the census of 1870, we find that this peculiar deficiency in the age group, and the maximum proportion of the foreign-born, occur in those age-groups which precede by ten years the groups in which they occurred in 1880. The break or step in the descending line is in the age-group 5 to 10, instead of that of 15 to 20, and the maximum proportion of the foreign-born is in the age-group 25 to 30, instead of that of 35 to 40. Now, if we go back between five and ten years from the census of 1870, to see what special cause existed in that period for a diminution in the number of births, we find ourselves in the period of our civil war. These breaks or angles, then, are the scars of one of the wounds which the war inflicted, or, rather, they are like the spots and ridges on the finger-nails due to serious illness or local injury, which gradually grow out and disappear. The shifting of the maximum point in the line of the foreign-born population indicates

the unusually great immigration of Irish and German families containing young children, which occurred between 1850 and 1860, forming a wave whose crest is still perceptible. It is safe to predict that in a similar diagram for the census of 1890, the break or step showing deficiency in births will be shifted forward to the age group 25 to 30, and that the maximum proportion of the foreign-born will be in the group 45 to 50.




Proportion, in 1,000, of Living Population at Certain Groups of Ages, at Census of 1880.[1]

In general, we may say that the census indicates the state of the population at a given period. Vital statistics, however, consider both the state and the movement of the population, and therefore for these we must have something more than the census, viz., a record of the deaths and births occurring in successive periods, from which we can compute mortality and natality rates.




Proportion, in 1,000, of Living Population at Certain Groups of Ages, at Census of 1870.[1]

Mortality, or mortality rate, refers to a ratio between the number of deaths occurring and the number of living population furnishing those deaths. It is to be distin-

[1] —— All classes; — — — — native white; - — - — - — foreign-born white; ..... colored.

guished from a statement of the number of deaths, since to determine the mortality in a given population we must not only know the number of deaths, but also the population furnishing that number. $M=\frac{D}{P}$.

In the same way, natality does not mean the number of births, but it means the ratio of the number of births to the population in which they occur. $N=\frac{B}{P}$.

The relations between mortality and natality are very important, as I shall have occasion to explain hereafter. The value of such statistics depends, of course, on the accuracy of the individual data, and the completeness with which these data are gathered for the given locality to which they relate.

Accurate data with regard to deaths can only be obtained by a system of registration of deaths made at the time they occur. Repeated experience has shown that it is utterly impossible to collect, at the end of a year, by any mechanism of enumeration, more than seventy per cent. of the deaths which have occurred during the preceding year, and it is now well recognized that a complete registration of deaths can only be secured by legislation which forbids a burial until a permit has been granted from a central office, which permit is issued only on the certificate of a physician, setting forth the cause of death and other facts connected with it which are of importance, and which will be presently referred to. In the great majority of cases it is comparatively easy to enforce the law, even in thinly settled rural districts, and the community soon learns to consider any attempt at burial without a permit as a suspicious circumstance, indicating a desire to conceal either the death or the cause of death, and justifying a special investigation by the authorities. When it has been decided to require a burial permit in all cases, it is not usually difficult to require the data for registration as an indispensable preliminary to the issuing of such permit.

Any system which depends upon the returns of undertakers for a record of deaths gives incomplete and unsatisfactory results. It is only where the permit must be obtained before burial and the certificate must be filed at a central office before the permit is issued, that a complete record of all deaths will be obtained. Any complete system of death registration should include some method of verification of the death and of its cause, which must be certified to by some person having the special knowledge which alone can enable him to give such a certificate.

In the first place, we must have this verification to insure the fact of a death having taken place. In its absence, in a large city, there is little or no difficulty in having recorded the death of a person who may be either alive and well, or non-existent, and the door is thus opened to frauds of various kinds, some of which have actually been attempted and discovered, while others, no doubt, have been successful and remain still unknown. Such verification is also necessary to insure the fact of real as opposed to apparent death in any case, and thus prevent premature burial.

The utility for this latter purpose is, of course, small, for the popular idea as to the frequency of trance or other conditions simulating death, so that the true state of affairs is not detected, is, as you all know, grossly exaggerated. Nevertheless, this consideration may enter as a factor into an argument in favor of such skilled verification.

The main reason, however, for the verification of a death by expert testimony as to its cause, is that it is necessary to establish the fact that a death has taken place from what may be called natural causes as opposed to criminal causes.

This verification of death, and of the causes of death, may be made either by physicians employed for that particular purpose and paid by the State, or by the physician under whose charge the deceased person has been immediately previous to death; in which latter case only those cases which have not been under the treatment of a physician are referred to a public medical officer, or the coroner, for verification and determination of the cause of death.

The first system is that which is employed in France, Austria, and Belgium. The second is the one made use of in England and in this country.

All registration laws include the certificates of physicians as an essential part of their machinery. Some do this directly, requiring that physicians shall keep a list of all deaths occurring in their practice, and shall forward this list at stated times to the registrar. This method has invariably proved to be a failure, as has also the similar attempt to require of clergymen that they shall furnish lists of the marriages which they have solemnized. It is utterly impossible to enforce such laws under penalties, and not fifty per cent. of either clergymen or physicians will carry out their requirements under ordinary circumstances.

Where burial permits are required, a physician may be made responsible for a certificate as to those matters only with regard to which his special professional knowledge is necessary, such as the cause of death, duration of sickness, etc.; or he may be required also to certify as to the age, birthplace, parentage, occupation, etc. The great majority of physicians accept without hesitation the data furnished on these points by some member of the family, or whatever appears set down in the form of certificate brought to them by the undertaker for signature. But there are always physicians who question the propriety of the law and object to certifying to that of which they can have no personal knowledge, while some few may possibly decline.

The requirements of a registration law impose upon medical men who sign certificates as to causes of death a very considerable responsibility, much more considerable, in fact, than many of them probably realize. The physician is to consider whether his knowledge of the case is sufficient to enable him to determine whether or not the death was due to what are called natural causes, whether there is reason to suspect that violence, poisoning, criminal neglect, etc., may have been more or less factors in the result, and whether any certificate as to the nature of the cause is justifiable. The pressure upon the medical man to certify to more, or sometimes less, than he knows, is occasionally very strong, but the only course in doubtful cases is to indicate clearly what one knows, as distinguished from what he merely believes on the faith of statements made by others. In ordinary matters of daily routine occurrence, in which there is no apparent motive for falsification, we constantly do, and must, accept the statements of others; the physician acts as the primary judge of the evidence submitted by relations and friends as to the time of death, the age and race of the decedent, the duration of the disease, etc., and is justified in certifying to his belief in this evidence, very much as he is justified in certifying to the date of his own birth.

It has been objected [1] that registration laws may do very well for countries where people have been trained for generations in that line of action, but that they are at war with principles of democratic action and with individual freedom, and that the reason why physicians do not execute the law is because they not only have no personal interest in its execution, but because of a feeling of revolt against the injustice of a law which inflicts a special tax in the shape of time and trouble, and affords no compensation for the extra labor and expense.

These views are not those held by the majority of the medical profession, and it is not probable that the payment of a fee would add much, if anything, to the completeness or accuracy of the registration data furnished by medical men. Nevertheless, these objections have some weight from a legal stand-point, and should be borne in mind in attempts at legislation. Any attempt to compel a physician, under penalty, to report the age and birthplace of his patients, would certainly be worse than use-

[1] Dr. H. M. Lyman, in the Chicago Medical Journal, 1878, p. 252.

less. The policy is not to call upon medical men to submit the information which should be demanded from the parent or householder. Under the police power of a State, certificates of the cause of death may be required from physicians as being necessary to secure life and protect property, but returns for merely statistical purposes, such as of births, cannot be required of any other than the parent.

There is no good reason why reports of births should be required from medical men. But as regards reports of deaths, it is to the interest of properly qualified members of the medical profession that such certificates should be demanded from them. Whenever and wherever certificates as to the cause of death are required from physicians, there must also be established some system of determining who are physicians within the intent of the law.

At first it may be necessary to accept certificates from anyone and everyone who chooses to call him or herself a physician; but the character of some of the documents of this kind, which will come in, will very soon indicate the necessity for some discrimination. Thus it is that the certification of the causes of death by physicians is the essential foundation, and it is the only essential foundation, of legislation with regard to the qualifications which the State has a right to demand from practitioners of medicine.

The registration of marriages, births, and deaths is important to the individual, because it gives him increased security in his rights to property and to life, by enabling him to furnish proof of parentage and legitimacy, by increasing the chance of detection of fraudulent claimants to property of which he is the true heir, and by discouraging criminal attempts to shorten his life, owing to the fact that evidence must be furnished that death was due to natural causes, or a special legal investigation of the circumstances will be made. Of the importance to the community as a means of protection of health and life, and to scientific men and physicians as a means of investigation of some of their problems, I need give no proof to this audience.

We can hardly be said to have a complete system of registration of births in any State or city in this country. Probably the city of Providence, R. I., has the most complete records of this kind of any of our cities. As regards the registration of deaths, Massachusetts, New Hampshire, Vermont, New Jersey, the greater part of Connecticut and New York, a large part of Alabama and Minnesota, and most of our large cities, have now a fairly satisfactory system and complete record. For the rest of the United States, there is either no system of registration, or, if any exists, it is a very imperfect and incomplete one, the results of which cannot be depended upon, and which cannot be compared with the results obtained in the localities above referred to as having a complete system; and the only means which we have of estimating the mortality of these localities is by the reports of deaths for the preceding year collected by the census enumerators.

It is for this reason that the decennial United States Census is a matter of such great importance to scientific medicine, and to practical sanitation—of much greater importance, in fact, than most physicians and health officials seem to fully appreciate. It is true that the death-records thus obtained in the large areas of the country in which there is no registration are incomplete, and, as regards causes of death especially, inaccurate; but they are the best we have; they are becoming better at each census, and the death-records in the registration areas serve to measure their reliability, and to indicate to some extent useful corrections.

As the value of statistics of deaths depends very largely upon the possibility of comparing them with corresponding statistics of the living population furnishing those deaths, it is evident that the modes and times of obtaining and of publishing the results of the census are matters of great importance to medical and sanitary statisticians. This is especially true as to the frequency with which a census is taken, the units of area made use of in its published tables, and the combinations of age, sex, race, and occupation data given in connection with such units of area.

Let us first consider briefly the time of taking the census.

The conclusions of the various statistical congresses with regard to the methods of the census are summed up by Korosi in his project for a census of the world, published in 1881.

The first of these conclusions was that the census should be taken every ten years, in the month of December, and in those years the number of which terminates in zero; recommending, however, that intermediary censuses should be taken at the discretion of different governments.

The taking of the census at the end of December has the advantage that a relatively greater number of population are in their own homes then than at any other time, and that it corresponds to the termination of the calendar year, at which date many State and municipal reports terminate, so that all the figures, being for one date, are readily comparable with each other. For a very large part of this country it would be quite as easy to take the census at the end of December as on the first of June; but there are some sections in which attempts to take the census in the midst of cold and rainy weather, for a thinly scattered population, would be made under very great difficulties.

In a paper read at the British Health Congress in May, 1889, Sir Edwin Chadwick urges the desirability of an annual census for the improvement of public administration, referring to the fact that, "in commerce and in manufactures, as in every large company, there is an annual stock-taking, and upon that stock-taking a report and declaration of the results is made to the stockholders. But what is the state of the political administration which has only attained to a stock-taking of the living people, of the healthy and the weakly, on whom the power and the prosperity of the county depend, which is only attempted every ten years, and is only completed in three years, leaving the numbers, meanwhile, to be got at by estimates, necessarily erroneous—often widely erroneous? An annual census of the more numerous animal stock has been lately striven for and attained, and is worked out by the Agricultural Department of the Board of Trade. It is some forty-five millions of the agricultural stock, while the population of England and Wales is about twenty-eight millions. Other nations, as France and the United States, have halved the inconvenience of the stock-taking of the human population."

Sir Edwin is in error in this last statement, for the United States Census is taken but once in ten years, and but a few States have thus far taken the intermediate census, which would make the enumeration come at quinquennial periods.

In the law providing for the last census, an attempt was made to induce the States to take this intermediate census by an offer that the United States should pay one-half of the amount paid to all supervisors and actual enumerators in the State, increased by one-half of the percentage of gain in population in the State, provided that the schedule used should be similar to those used in the census of the United States, and that a full copy of all schedules returned, and reports made, should be deposited with the Secretary of the Interior on or before the September following.

This provision, however, has not had the effect designed, probably for the reasons set forth in the report on the census of Michigan for 1884, namely, that at least two months are required to make the enumeration, transmit the blanks to the Secretary of State and arrange them, which leaves but one month (August) for correction of errors and for making the full copy of the schedules. As applied to the State of Michigan, this would require a thousand or twelve hundred clerks for twenty-five days. The amounts paid the supervisors and enumerators for the United States Census of 1880 were $71,192.06, one-

half of which, increased by one-half percentage of gain, gives $42,401.99 as the amount Michigan would have received from the General Government if its census had been taken in conformity with the national census law. But it would have cost from sixty to seventy thousand dollars to copy the schedules and reports, or from eighteen to twenty thousand more than the amount that would have been received from the national treasury to compensate for the work. A few sets of territorial schedules were sent in, but nothing was done with them.

Sir Edwin, however, urges that even the quinquennial census would be considered insufficient for business purposes in the ordinary affairs of civil life, and refers to the fact that the proposition for an annual census in the European governments was discussed at the International Statistical Congress at the Hague, having been proposed by himself and strongly seconded by Professor Engle, the head of the Statistical Bureau of Prussia. The matter was appointed to be the subject of discussion at a future Congress, but in the meantime the meetings of the Congress were interrupted, and the matter has never again come up as a subject for international discussion.

Annual censuses have been tried and abandoned in Canada. Triennial censuses have also been tried, but the general conclusion seems to be in favor of five-year periods.

In Austria, Belgium, the greater part of the British Empire, Denmark, Holland, Hungary, Italy, Norway, Sweden, Switzerland, and the United States, the census is decennial.

In the Sandwich Islands a census has been taken every six years since 1853.

In France a census was taken in 1801, 1806, and every five years since 1821.

In Sweden every five years from 1775–1860.

In Germany every five years since 1866.

In Finland every five years since 1875.

In Sweden every three years from 1749–75.

In Baden every three years from 1818–67.

In Hanover every three years from 1830–64.

In Prussia every three years from 1834–67.

In Saxony every three years from 1834–67.

In Bavaria every three years from 1834–67.

In Upper Canada (now the Province of Ontario) a census was taken annually for nineteen years from 1824–42.

In New Zealand nine censuses have been taken since that of 1851, at intervals of from three to seven years, the last interval being five years.

In Queensland there is also a quinquennial census.

While it is not probable that any agreement for an annual census of the whole country will be made in the near future, either by the United States or by State governments, it is certainly quite possible that the desirability for more frequent enumerations in the larger towns and cities will soon become so evident as to lead to systematic arrangements for carrying it out. Even now, many cities take what they call a police census, at irregular intervals of from three to five years, for the purpose, mainly, of making rough subdivisions of the voting populations in the form of precincts, and of obtaining information for the purpose of levying taxes, more especially for school purposes. These police censuses, however, relate only to adult males, and upon them are based estimates of the number of the remaining population, which are used by the sanitary officials in computing death-rates. These estimates, however, are almost invariably too high, as is shown by the next State or National census, and, in any case, afford no satisfactory basis for computation as to the number of inhabitants in the different wards of the city, owing to the great variations in the ratio between the voting population and the rest of the people in different classes of society and in different parts of a town.

By the use of proper schedules, somewhat on the English system, left at each house, there should be very little extra expense over that of the ordinary police census in collecting sufficient data with relation to the entire populaton of a city, to give accurate data with regard to the vital statistics of the population, and these, combined with a good system of registration of deaths and marriages, would give the means for a system of vital statistics of a place such as, at present, no city in England or in this country possesses.

The unit of area made use of in furnishing the census data is a very important matter in connection with the statistics of deaths, for, practically, these last must be classified by the same areas. The census units of area have usually been fixed by political considerations with reference to votes, to taxation of various kinds, and to military service. In this country the smaller unit is usually the county or city, or, in some cases, the wards of a city, the larger units being the State or Territory.

For the purposes of vital and medical statistics such units of area are often of little or no importance, because the boundaries of wards, of cities, of counties, and of States are not fixed with reference to the peculiarities to topography, drainage, character of habitations or of the people, which are important factors in the causation of disease and death, and which, therefore, require study, as much so as with reference to dividing the population for purposes of representative government. Moreover, in the publications of the several censuses prior to that of 1880, the population of the smaller areas, such as cities and counties, was, as a rule, given with distinction of sex and of color only, while the most important factor in vital and medical statistics, namely, age, was stated in detail for States only. In the census of 1880 an important advance was made in this respect, for, in connection with the mortality statistics, the population of each county having ten thousand inhabitants and upward, and of the large cities, was given with distinction of age under one year and under five years, for each sex of each color.

In the next census the population by counties will be given with still further distinctions of race; it will be given with distinction of age under one year and under five years for wards, and in about two dozen of the largest cities it is proposed to select certain areas which present peculiarities as to topographical features, or as to the character of the people inhabiting them, and to give the population of these by age, sex, and color, as a basis for the study of the death-rates of these localities. In a large city like New York, even the ward is usually too large to be a satisfactory unit of area for statistical study, since one ward will contain some of the best and some of the worst habitations, and include classes of people having very different means, habits, and death-rates.

In the annual report of the city of Brussels the population, births, and deaths, are given by streets, courts, and alleys. This does very well for Brussels, where the streets are short; but in our large cities, regularly laid out in rectangles, where the streets are miles in length, and traverse localities differing widely in topography and in character of population, it does not seem to be applicable.

The data required on individual certificates of death should correspond to those required on the schedules of living population, and, in addition, should give the cause of death.

The death-rate, or mortality, is the ratio between quantity of life and loss of life. It refers to a definite unit of time, viz., one year's life of one person, and the quantity of life is the sum of the time lived by each of the population expressed in years. Two persons living six months each, or twelve persons living one month each have one year of life. If the population is assumed to be stationary, that is, one in which the births and deaths, and the emigration and immigration, are exactly equal to each other and similarly distributed throughout the year, then the number of the population multiplied into the time under consideration, expressed in years and fractions of years, gives the quantity of life

A population usually, however, increases in geometrical

progression, and in such case we must find, by means of a well-known formula, the mean population of the period, which will be less than the arithmetical mean of the populations at the beginning and end of the period and greater than the population living in the middle of the period; but the differences are small, and, in most cases, either figure may be employed.

For example, suppose we wish to calculate the death-rate of New York City for the year 1888. By the censuses of 1870 and 1880 we know the population on June 1st in each of those years. From these we determine the ratio of increase, and thence the population on January 1 and December 31, 1888, from which the mean population can be computed, or the arithmetical mean be taken. Or, we can compute directly the population on July 1, 1888, and it makes little difference as to probable accuracy which of these three estimates of population we take.

You will perceive that this method rests on the assumption that the ratio of increase of a locality during ten years as determined by the census continues unchanged and uniform thereafter. This is hardly ever true, and, for many localities in the United States, and especially in the rapidly growing West, it is very far from the truth, which is a strong argument for more frequent counts.

Various methods are used by statisticians to correct the estimates of population made for a city at periods other than during a census year, as determined by a formula of arithmetical or geometrical proportion, among which may be mentioned the use of the ratios supposed to exist between the number of houses or the number of voters, or the number of school-children and the total population. The number of houses is determined from tax records or by a special count; the number of voters by registration lists or by a police census; the number of school-children by a special census; and the ratio which these bear to the whole population is guessed at or is calculated from the data obtained at the last census.

The most useful and reliable of these methods is the use of the average numbers of presumed occupants of inhabited houses, the other ratios being of very little value.

This has been very well shown by Dr. Russell, Medical Officer of Health at Glasgow, in a paper on "The Decennial Census as a Basis for Statistics in Intervening Years," Glasgow, 1881. In the case of Glasgow he considers the estimate of her population based on the number of inhabited houses and the estimate based on preceding censuses, and finds that both methods give a population above the actually existing one as shown by the next census. The error in the estimates based on the previous census was due to a change in rate of growth. The error in that based on the number of houses was due partly to incorrect data of the number of inhabited houses, and partly to an error in calculation.

In the United States Census of 1870 the number of persons in a dwelling in the large cities varied from 14.07 in New York to 5.20 in Toledo, these differences being due, to a considerable extent, to the counting of large tenement-houses containing numerous families as a single dwelling.

If we take the data by families, we find in the same census that the largest number of persons to a family was in Kansas City, the number being 5.78, while in New York it was but 5.07.

In 1880 the proportion of persons to a dwelling ranged from 16.37 in New York to 4.68 in Memphis. In Baltimore it was 6.54; in Boston, 8.26; in Philadelphia, 5.79. The number of persons to a family was: In Baltimore, 5.8; in Memphis, 4.23; in New York, 4.96; in Philadelphia, 5.13.

It is evident that no value can be placed on estimates of population of a city based upon the number of habitations it contains if a cottage and a tenement-house are to be equally reckoned as a habitation.

Estimates of the population based on police censuses, on the number of school-children, or on city directories, are of very little use, being, in almost every case, in excess of the truth. No general rules can be laid down for the estimation of the population of a city at a period between two censuses. It is a special problem in each case, for the solution of which there is needed an acquaintance with the locality, to be sure that boundaries have not changed, the information which can be obtained from special local censuses, from the number of inhabited buildings, from migration statistics, etc., all of which must be applied to the data furnished by the last general enumeration of the people, which, in any case, must be resorted to for the ratios which are to be used.

It is to be observed that municipal statisticians and registrars rarely make use of the means afforded by a general census to correct the figures of population, and, therefore, rarely alter death-rates which they have given for the years intervening since the last census; yet it is highly desirable that this should be done, in order to prevent the use of misleading figures. For example, in Chicago, in 1873, the registrar estimated the population of the city at 400,000, and deduced therefrom the death-rate for the year as 23.89. Comparing the populations in 1870 and in 1880, it was apparent that the true population was about 350,000, giving a death-rate of over 27.

In Boston, in 1876, the estimated population at the time was 352,758, giving a death-rate of 23.39, while the true population, as shown by comparison of census data, was about 313,000, giving a death-rate of over 26.

The shorter the period for which a death-rate is given, the greater is the liability to error. The ordinary forms of weekly death-rates reported for large cities are annual death-rates; that is, they represent what would be the annual death-rate if the proportion of deaths to the population for the week continued for one year. If, for example, a town having a population of 100,000 reports as its weekly death-rate for a given week 25 per 1,000, this does not mean that during the week there occurred 2,500 deaths, but it means that if the population and number of deaths each week are continued the same during the year, 2,500 deaths would have occurred in the course of the year, or that for the week in question the number of deaths was 2,500 divided by 52.17747. A weekly death-rate is useful to show where the greatest variations have been in the year's mortality, but it is no indication of the health of a town for a particular week, and it is useless as a means of comparison of the healthfulness of one town with that of another. This is largely due to the law of probable deviation or error in mortality statistics in relation to the number of instances used as data without reference to their accuracy. This law of probable error in relation to number of data is an exceedingly important one, to be kept in view in all statistical inquiries, and especially in those relating to vital and medical statistics.

For example, suppose that in a village of a thousand inhabitants there occur 25 deaths in the course of a year, and in a neighboring city of 10,000 inhabitants there were 200 deaths in the same time. What is the probability that the death-rate of 25 per 1,000 for the first, and 20 per 1,000 for the second, indicate the relative healthfulness of the two places, supposing the data to be perfectly accurate, and that we have no other information in regard to them than that stated?

Or, suppose that during one year, in a population of 100,000 persons, there occur 2,000 deaths, what is the probability that in a second group of 100,000 persons, under the same circumstances, the number of deaths in a year will not be less than 1,950, nor more than 2,050?

The answers to such questions as these are furnished by formulæ derived from the mathematical laws of probability. The simplest of all these formulæ, and the one most practically useful for rough and ready calculations in cases such as that given in the first example, is, that the mean or probable error is equal to the square root of the number of the dead. By this rule the probable error for the village of 1,000 inhabitants, for 25 deaths, would be 5, and therefore the mortality in this place might vary between 20 and 30 per thousand, without any certain indica-

tions of variation in the sanitary conditions of the place. In the city of 10,000 inhabitants, with 200 deaths, the probable error is a little less than 15, the variation between 185 and 215 corresponding to an average mortality of 18.5 to 21.5 per thousand, being a probable variation of only 3 per thousand instead of 10, as in the first case. It is very clear, then, that in comparing these two mortality-rates, no positive conclusion can be drawn as to the relative healthfulness of the two cities, seeing that the probable variations overlap, as it were, for the rates ranging from 20 to 21.5.

The formula that the probable variation in the number of deaths is the square root of that number, gives results that are somewhat too great, being merely an approximation to the true formula, which is of much more general application, but requiring too much computation for general use. I shall refer to this matter of the law of error in more detail in speaking of medical statistics. For the present, I only call your attention to the fact that it is necessary to bear in mind the absolute numbers as well as the percentages, and that, therefore, statements of ratios only are insufficient for definite conclusions.

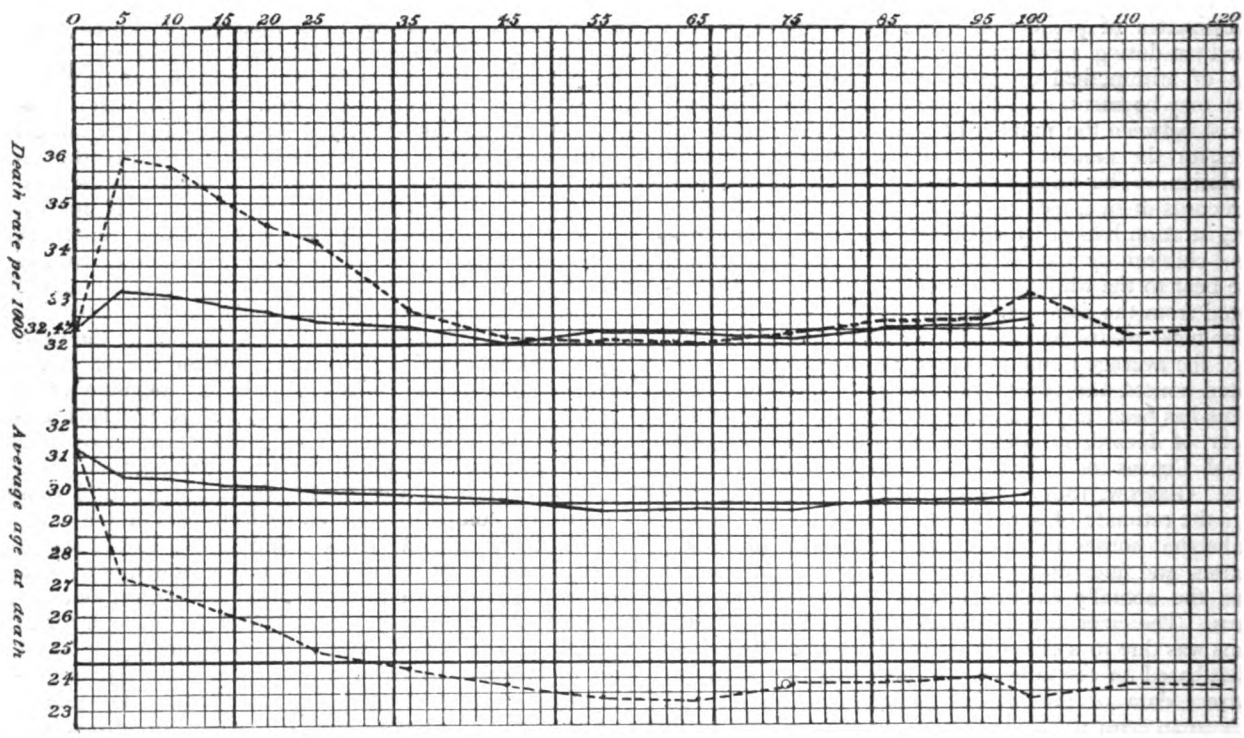
of an annual calculation of birth-rates and their comparison with the deaths of children under one year of age, or those born within the year. We can only obtain this data for any large extent of country by referring to the census records.

The usual method of indicating the birth-rate is by giving it as the proportion per 1,000 of births to the population of all ages; but a much better and more satisfactory mode of computation is to calculate the number of births to the number of women between the ages of 15 and 50 or 55 living in the community referred to.

The general subject of birth-rates is interesting chiefly in relation to social statistics, to the fecundity or rate of increase of population or of people of different races; but, in relation to mortality statistics, it may also become an important factor in the calculations.

There has been from time to time some controversy between statisticians and health-officers with regard to the influence of birth-rates upon death-rates, or as to the precise relations which exist between the two. As the death-rates of infants are much greater than those of the population at higher ages, it has been claimed by some that

*Diagram Showing the Effect of an Increased Birth-rate Upon the Death-rate, and the Average Age at Death.*[1]




What is a fair or normal death-rate? Taking an average healthy rural district in the United States, where there is little migration, the annual gross death-rate for the whole population will be from 13 to 15 per 1,000. In towns of from 10 to 15,000 inhabitants, having a good general water supply and proper sewerage, the gross death-rate should not exceed 16 per 1,000. In cities of from 20,000 to 100,000 inhabitants it should not exceed 17 per 1,000, while in cities of over 100,000 inhabitants it should not exceed 19 per 1,000. The great causes of high death-rates are poverty, overcrowding, intemperance, excess in heat and cold, with moisture, foul air, bad food, impure water, uncleanness, contagion, ignorance, etc.

Births and Birth-rates.—The statistics of births are of much importance in vital statistics, because of the influence of the birth-rate upon the sex and age-distribution of the population. Unfortunately, in this country, as I have already explained, hardly any locality possesses such an enforced system of registration of births as to permit

where there is a high birth-rate there also is a high death-rate; but it cannot be said that this will invariably be the case, or that the one is directly the cause of the other, except in certain cases for a comparatively short series of years. This will be best understood from the above diagram.

Starting with a population numbering in all 308,378, supposing that there are no migrations, we will calculate the progress of such a population for 100 successive years, under two suppositions—the first for a constant birth-rate of 35 per 1,000, and the second for a constant birth-rate of 45 per 1,000. The death-rate at the commencement say is 32.42 per 1,000. Under the influence of a constant birth-rate of 35 per 1,000, this death-rate will increase during the first period of five years to 33.17, and after that steadily sink until, at the end of 55 years, it becomes less than the original death-rate, and at the period of 65 years will sink below it; after which it again rises until, at the end of 100 years, it has reached the rate of 32.44.

Taking now the same population, under the same circumstances, at a constant birth-rate of 45 per 1,000, we see that the death-rate rises in the first five years to 36

[1] - - - - - - - Fixed birth-rate of 45 per 1,000; ——— fixed birth-rate of 35 per 1,000.

after which it steadily sinks as it did in the former case, until, after the lapse of 60 years, it is only 32.01, after which it again rises and finally comes down to a point a little below that from which it started. In both these cases, then, it is evident that the high birth-rate for a time produces an increased death-rate, since there are no other circumstances present to account for the change. But after the first five years the proportion of those living at the ages at which there is the lowest mortality has been so much raised as to more than counterbalance the large number living in the first years of life, and, therefore, the death-rate steadily descends.

But, to understand the full effect of this change, it is also necessary to consider the average age at death. Taking the average age at death at 31.37, it will decrease to 29.65 under the influence of a constant birth-rate of 35 per 1,000; while, with the higher birth-rate of 45 per 1,000, it will diminish as the death-rate diminishes to the age of 65, at which period it will be only 23.02, after which it will again rise as the death-rate increases.

As a rule, high birth-rates occur in cities, and in the crowded parts of cities, among the laboring classes of the population, where the causes of disease and death in infants are especially prevalent.

On the other hand, it is to be noted that a high death-rate among infants has some tendency to increase the birth-rate, because the interval between child-bearing is shortened by the early death of the infant; and in the effort made by poor women to avoid frequent child-bearing, a common means is to suckle the infant up to at least two years of age, in order to prolong the interval between pregnancies—which is a practice injurious both to the mother and to the child.

If we had under consideration a community in which there were no migrations, and in which the population neither increased nor diminished, the relations between birth-rate and death-rate and the average duration of life could be expressed by a simple formula, in such a way that, given either two of these quantities, we could determine the third. If, for example, in a population of 1,000 persons, five births and five deaths occur annually, and if we assume that every individual lives to the same mean age, evidently just 200 years would elapse before the whole of the original 1,000 would have died. This 200 years would be the mean duration of life, and this would be the case also if deaths occurred at different ages, only in such a case many would die below the mean age; when some would greatly exceed it. This subject has been considered by Dr. J. S. Bristowe in a paper "On the Mutual Relations of the Birth-rate and Death-rate."[1] From the table which he gives I have extracted that part which shows the mean duration of life under certain conditions of birth-rate and death-rate, where the birth rate varies from 3 to 5, and the death-rate from 15 to 35, in a thousand.

Dr. Bristowe says: "There can be no difference in the healthiness of two localities in one of which the death-rate is twice as high as that of the other, provided other conditions are such that in both cases the inhabitants attain the same mean age; or, conversely, supposing different populations to enjoy the same mean duration of life, any differences which may be presented by their respective death-rates are due to other circumstances than differences of health." He also says that the average duration of life can be determined by the birth-rate and death-rate taken together, but not from the death-rate alone. If he means by healthiness mean duration of life, this statement is equivalent to saying that, where the mean duration of life is the same it will be alike—an indisputable proposition, though not a very instructive one. But if by healthiness is meant the sum of the conditions of the locality as to altitude, drainage, cleanliness, etc., which tend to lessen or increase deaths in the people living in it, then the statement is incorrect, for it does not take into account age, sex, or race distribution, occupations, or migrations. Setting the question of migrations entirely aside, it is perfectly possible that two populations, attaining the same mean age and having the same death-rate, may live in two localities, one of which is decidedly healthier than the other; so that, if the two communities exchanged habitations, a marked difference in the death-rates and mean age at death would result.

Putting aside all these purely speculative considerations with regard to what might happen in a stationary population where there is no migration, let us see what the significance of death-rates is in our cities and rural districts, as they now exist. We wish to know how much of the death-rate is due to peculiarities in the character and occupation of the population itself, and how much to peculiarities in the locality, and for each of these classes we wish to know how much is necessary and unavoidable, and how much is due to causes which may be modified or done away with. Precise knowledge on these points we can never have, but we can obtain a sufficient degree of probability to guide our action in the premises.

If we wish to study carefully the influence exerted upon health and life by race characteristics, by residence in a given locality, by marriage, occupation, social standing, etc., we must have the means of comparing results given in different localities, or in the same locality at different times, or for different races, occupations, etc., under like circumstances.

To accomplish this we must, as far as possible, estimate the influence of other circumstances not connected with the particular point which we are investigating, but which, notwithstanding, exercise a powerful influence upon sickness and death-rates; and of these, the two most important influences are those which differences in proportion of sexes and ages of the population to be compared exert.

The means recognized as best calculated to eliminate the influence of sex and age, by, as it were, reducing the population to one uniform scale in these respects, is by calculating the expectation of life at each age for all the several conditions of locality, occupation, etc., which we wish to investigate; in other words, by the preparation of what are known as life-tables. A life-table shows what would be the tendency, or liability, to death at each age in a population in which there is no migration, and in which the births and deaths just equal each other, if such a population were subjected to the same influences tending to produce diseases and death as have affected the actual population under consideration, and from which the data are derived. It is, of course, impossible to prepare life-tables which shall be strictly accurate and exactly comparable one with another, because it is impossible to obtain strictly accurate data. A life-table is intended to answer the question, "Of a million children born, how many of each sex die at each age?" or, "What is the time which a man or woman of a given age may be expected to live?" A strictly accurate answer to this question could be given only if we knew the precise dates of birth and death of each of a million of children, born under the circumstances we are investigating; and, strictly speaking, these million children should all be born on the same day. Notwithstanding, by using large masses of data which are more or less attainable, and by applying certain well-known corrections, the individual errors tend to neutralize each other, and we can prepare tables which will be quite accurate enough for purposes of comparison.

A vast amount of labor has been expended upon, and study given to, this subject; for immense business interests and important points in the jurisprudence of inheritance depend upon the existence and accuracy of these tables. Hundreds of millions of dollars have been, and now are, invested in life insurance on the faith that certain life-tables truly represent the average course and duration of the life of a particular class of the community—and

[1] St. Thomas's Hospital Reports, New Series, vol. vii., London, 1876, p. 245.

the result of more than a hundred years of experience has been applied to their correction under the powerful stimulus of urgent need, from a pecuniary point of view, to have them as accurate and reliable as possible.

Probably the earliest form of such a table known is that given in the Pandects of Justinian by Domitius Ulpianus, commonly known as Ulpian, a distinguished lawyer, who was the secretary of Alexander Severus, and who wrote in the beginning of the third century of the Christian era. This table is found in an extract from his writings given in the Pandects in a treatise by Æmilius Macer.

Ulpian states that in Rome registers of Roman citizens, including the data of age, sex, and death, were kept by the city from the time of Servius Tullius to that of Justinian, including a period of one thousand years. From these data, which applied to the more prosperous class, Ulpian gives a scale for estimating the purchase value of communities according to the different values of life at different ages, and sums it up in saying that it is usual to compute thirty years' maintenance for all those under thirty years of age, and that for all over that age as many years are allowed as they lack of sixty.

In connection with the question of annuities, Ulpian gives a scale for estimating them, which is apparently the probable length of life of persons of the ages named.

The first life-table of modern times was constructed in 1692 by Dr. Halley, from the registers of the city of Breslau for five years, and was printed in the "Philosophical Transactions" in 1693. The data for this and for other similar tables constructed in the eighteenth century were too imperfect to permit of good results, and the first life-table which was selected as of sufficient accuracy for business purposes is what is known as the Carlisle life-table, compiled by Mr. Milne in the early part of the present century.

We now have a considerable number of life-tables applicable to the special classes of those who are likely to insure their lives, derived from the experience of a large number of insurance companies in Europe and in this country; and also a number of life-tables derived from the data of the whole miscellaneous population of the country for England, France, Germany, Sweden, and for certain parts of this country.

In order to prepare a life-table for a given locality or occupation, we must know the number of persons living at each year of age, and the number of deaths at each age which have occurred among these persons for one or more years.

We assume that deaths have occurred at regular intervals during the year for each age and proceed to compute the number of persons at each age, who were living in the middle of the period for which the deaths are registered.

In using census data, however, we cannot directly compare the deaths at each single year of age with the number reported by the census as living at that age, because of the strong tendency of the average man or woman to report ages either of the living or of the dead, but especially the former, in numbers which are multiples of ten or five, or in so-called round numbers. This will be seen by examining the census record of 1880, with regard to Massachusetts and New Jersey. The figures there given are for whites only.

An examination of these figures will show that the death-rates calculated from them would indicate that the mortality at 25, 30, and 40 is much less than at the ages immediately preceding and following them. Thus from the above figures it would appear that in Massachusetts the mortality of white males at the age of 50 is only 9.42 per 1,000, while at the age of 49 it is 16.11, and at the age of 51 it is 19.16 per 1,000. There is, however, no such abrupt change in the law of mortality at the age of 50 as these figures would indicate, and it is necessary, therefore, to make corrections for this source of error.

It is true that the error in the number of deaths reported at the even decades is usually in the same direction as the error in the number of the living population, and therefore tends to neutralize the error in the computation of ratios; but this is not always the case, as will be seen in examining the deaths reported in New Jersey for females at the ages 24–26; and as the ages of the dead are usually reported more accurately than those of the living, the error would be almost invariably in the direction of making the mortality at the even decades too low, and for the adjacent years too high.

The error in question may be corrected in distributing the excess reported at the even decades to the adjacent years, by aid of the calculus; but the easier and usual way is to calculate the mortality rates by groups of ages, including five or ten years in each group—that is, for the periods 20–24, 25–30, 30–34, etc., or for the periods 20–29, 30–39, etc., or for the periods 25–34, 35–44, etc. Of the three modes of grouping, the last is the best, because it properly distributes the excess about the even decades, which is the greatest.

If we take the group of ages 20–29, 30–39, etc., the whole excess for the year 30 is distributed in the succeeding years, whereas a part of it really belongs to the years in the preceding group. This objection applies to a much less degree to the grouping of 35–44, 45–54, etc., for the excess at 45 is much less than at either 30 or 40; still, it is well to remember that approximate life tables, calculated as I shall indicate, give for this reason somewhat less than the true mortality, and somewhat too high an expectation of life for adult ages.

This source of error affects all mortality statistics derived from the results of a national census, and from the ordinary system of registration, but it does not affect mortality statistics derived from the records of life insurance companies, in which it may be presumed that the ages of both the living and decedents are accurately stated.

I do not propose to describe the methods of constructing a life-table. To make one sufficiently accurate to be used for the purposes of life insurance requires elaborate calculations and corrections, and the use of complicated mathematical formulæ; but the construction of an approximate life-table, in which no attempt is made to secure regular gradation, is a comparatively easy matter, and has been fully described by Mr. N. H. Humphreys in a paper in the "Journal of the Statistical Society" for 1883, which method was made use of in calculating the approximate tables given in the mortality statistics of the last census.

A few words of explanation, however, are necessary with regard to the headings of columns in the specimen life-table which is before you. The column headed $Mx$ is the mortality or death-rate of each group of ages as shown in the left-hand column, which is obtained by dividing the number of deaths by the mean population of that age. It signifies the mortality at any age, or group of ages, $x$.

The column headed $Px$ indicates the probability of living a year at any given age, $x$.

The column headed $Lx$ shows the number surviving at each year of age out of a given number taken as a starting point. For example, during the census year, in New York City the births of males and females were in such proportion to each other that out of a million children born, 516,385 would have been males and 483,615 would have been females. Starting, then, with this number 516,385 males as living at birth, the age first in the column $lx$, we find that in the next year, by the action of the death-rate shown in the column $Mx$, this number has been reduced to 380,689.

The column headed $Qx$ shows the number of years which the persons who survive at that period of age will live after that age, that is to say, the total quantity of life remaining at any given age, $x$. From this is readily deduced the expectation of life; that is to say, the average mean after-lifetime of each individual.

## Life Tables.—Approximate Life Tables for Certain States and Cities.[1]

*Life Table for Providence, Boston, and Massachusetts, for Years 1883-1887, Inclusive, and for Following Ages.*

| | | 0 | 5 | 10 | 15 | 30 | 50 | 70 |
|---|---|---|---|---|---|---|---|---|
| $M x$.. | Providence | 0.1748 | 0.0089 | 0.0039 | 0.0069 | 0.0111 | 0.0225 | 0.0898 |
| | Boston | 0.2505 | 0.0098 | 0.0043 | 0.0076 | 0.0132 | 0.0212 | 0.0686 |
| | Massachusetts | 0.2190 | 0.00724 | 0.00383 | 0.00654 | 0.01000 | 0.0149 | 0.0519 |
| $P x$.. | Providence | 0.8394 | 0.9611 | 0.9961 | 0.9931 | 0.9889 | 0.9777 | 0.9140 |
| | Boston | 0.7776 | 0.9903 | 0.9956 | 0 9925 | 0.9869 | 0.9790 | 0.9337 |
| | Massachusetts | 0.8026 | 0.9927 | 0.9962 | 0.9935 | 0.9901 | 0.9852 | 0.9494 |
| $L x$.. | Providence | 1,000,000 | 720,990 | 689,360 | 675,920 | 593,880 | 465,100 | 251,900 |
| | Boston | 1,000,000 | 625,085 | 593,310 | 582,608 | 494,517 | 357,317 | 169,755 |
| | Massachusetts | 1,000,000 | 702,037 | 676,745 | 663,751 | 584,836 | 461,070 | 263,310 |
| $Q x$.. | Providence | 40,814,885 | 36,843,580 | 33,317,705 | 29,904,505 | 20,349,305 | 9,744,005 | 2,446,755 |
| | Boston | 33,273,508 | 29,661,144 | 26,620,157 | 23,675,362 | 15,623,017 | 7,078,692 | 1,716,680 |
| | Massachusetts | 40,836,745 | 37,003,338 | 33,571,710 | 30,220,470 | 20,876,424 | 10,393,055 | 2,985,142 |

*New York City (Data for Three Years Ending June 30, 1881).*

| Ages. | Population, June 1, 1880. White and Colored. Male. | Female. | Estimated Population, July 1, 1880. White and Colored. Male. | Female. | Deaths for 1879-1880, 1881. White and Colored. Male. | Female. |
|---|---|---|---|---|---|---|
| 0 | 15,738 | 15,385 | 15,770 | 15,417 | 14,313 | 11,673 |
| 1 | 12,054 | 11,712 | 12,079 | 11,736 | 4,815 | 4,388 |
| 2 | 14,796 | 14,686 | 14,826 | 14,716 | 2,414 | 2,261 |
| 3 | 13,975 | 14,199 | 14,004 | 14,228 | 1,605 | 1,541 |
| 4 | 14,029 | 13,753 | 14,058 | 13,781 | 1,152 | 1,002 |
| 5-9 | 63,096 | 63,385 | 63,226 | 63,516 | 2,221 | 2,098 |
| 10-14 | 56,462 | 57,087 | 56,578 | 57,205 | 710 | 701 |
| 15-19 | 52,759 | 62,144 | 52,868 | 62,272 | 1,015 | 1,080 |
| 20-24 | 59,294 | 71,049 | 59,416 | 71,195 | 1,932 | 2,004 |
| 25-34 | 107,360 | 110,951 | 107,581 | 111,180 | 4,708 | 4,500 |
| 35-44 | 87,865 | 82,872 | 88,046 | 83,043 | 5,293 | 4,176 |
| 45-54 | 54,767 | 54,635 | 54.880 | 54.748 | 4,553 | 3,415 |
| 55-64 | 26,096 | 27,349 | 26,150 | 27.405 | 3,518 | 2,888 |
| 65-74 | 9,322 | 11,840 | 9,341 | 11,864 | 2,524 | 2,533 |
| 75-84 | 2,639 | 4,045 | 2,644 | 4,053 | 1,263 | 1,732 |
| 85 and over. | 262 | 693 | 263 | 694 | 253 | 602 |
| Total.. | 590,514 | 615,785 | 591,730 | 617,053 | 52,309 | 46,594 |

| Ages. | $M x$ (= Mortality at Age $x$). White and Colored. Male. | Female. | $P x$ (Probability of Living One Year at Age $x$). White and Colored. Male. | Female. |
|---|---|---|---|---|
| 0 | 0.30253 | 0.25239 | 0.73722 | 0.77589 |
| 1 | 0.13288 | 0.12463 | 0.87540 | 0.88268 |
| 2 | 0.05427 | 0.05121 | 0.94716 | 0.95007 |
| 3 | 0.03820 | 0.03610 | 0.96252 | 0.96454 |
| 4 | 0.02732 | 0.02424 | 0.97305 | 0.97605 |
| 5-9 | 0.01171 | 0.01101 | 0.98836 | 0.98905 |
| 10-14 | 0.00418 | 0.00408 | 0.99583 | 0.99593 |
| 15-19 | 0.00640 | 0.00578 | 0.99362 | 0.99424 |
| 20-24 | 0.01084 | 0.00938 | 0.98922 | 0.99066 |
| 25-34 | 0.01459 | 0.01349 | 0.98552 | 0.98660 |
| 35-44 | 0.02004 | 0.01676 | 0.98016 | 0.98338 |
| 45-54 | 0.02765 | 0.02073 | 0.97273 | 0.97942 |
| 55-64 | 0.04484 | 0.03513 | 0.95614 | 0.96548 |
| 65-74 | 0.09007 | 0.07117 | 0.91381 | 0.93128 |
| 75-84 | 0.16172 | 0.14743 | 0.85038 | 0.86704 |
| 85 and over | 0.32122 | 0.28897 | 0.72323 | 0.74751 |

Such records as those which you see on the tables before you are the life of a nation or of a community. They are hard to get, and not easy to read in many cases, but nothing can take their place as a means of judging of the effects which circumstances are producing on the fertility, health, and vitality of the people.

[1] The following tables are taken from my work on the Mortality and Vital Statistics of the United States, Tenth Census, 1880, Part I., 1886, p. 785.

| Ages. | $L x$ (Number Surviving at Age $x$). White and Colored. Male. | Female. | $Q x$ (Total Number of Years of Life Remaining to Survivors at Age $x$). White and Colored. Male. | Female. |
|---|---|---|---|---|
| 0 | 516,385 | 483,615 | 14,997,256 | 15,847,959 |
| 1 | 380,689 | 375,232 | 14,548,719 | 15,418,535 |
| 2 | 333,255 | 331,211 | 14,191,747 | 15,065,313 |
| 3 | 315,647 | 314,673 | 13,867,296 | 14,742,371 |
| 4 | 303,815 | 303,514 | 13,557,565 | 14,433,277 |
| 5 | 295,627 | 296,245 | 13,257,844 | 14,133,397 |
| 10 | 278,814 | 280,377 | 11,821,742 | 12,691,842 |
| 15 | 273,048 | 274,715 | 10,442,087 | 11,304,112 |
| 20 | 264,448 | 266,890 | 9,098,347 | 9,950,100 |
| 25 | 250,497 | 254,662 | 7,810,985 | 8,646,220 |
| 35 | 216,490 | 222,524 | 5,476,050 | 6,260,290 |
| 45 | 177,174 | 188,186 | 3,507,730 | 4,206,740 |
| 55 | 134,373 | 152,860 | 1,949,995 | 2,501,510 |
| 65 | 85,811 | 107,575 | 849,075 | 1,199,335 |
| 75 | 34,842 | 52,783 | 245,810 | 397,545 |
| 85 | 6,890 | 12,673 | 37,150 | 70,265 |
| 95 | 270 | 690 | 1,350 | 3,450 |

*Expectation of Life.*

| Ages. | White and Colored. Male. | Female. | Persons.* | Ages. | White and Colored. Male. | Female. | Persons.* |
|---|---|---|---|---|---|---|---|
| 0 | 29.04 | 32.77 | 30.90 | 35 | 25.29 | 28.13 | 26.71 |
| 1 | 38.22 | 41.09 | 39.66 | 40* | 22.54 | 25.24 | 23.89 |
| 2 | 42.59 | 45.49 | 44.04 | 45 | 19.80 | 22.35 | 21.08 |
| 3 | 43.93 | 46.85 | 45.39 | 50* | 17.16 | 19.36 | 18.26 |
| 4 | 44.62 | 47.55 | 46.08 | 55 | 14.51 | 16.36 | 15.44 |
| 5 | 44.85 | 47.71 | 46.28 | 60* | 12.20 | 13.76 | 12.98 |
| 10 | 42.40 | 45.27 | 43.84 | 65 | 9.89 | 11.15 | 10.52 |
| 15 | 38.24 | 41.15 | 39.70 | 70* | 8.47 | 9.34 | 8.90 |
| 20 | 34.41 | 37.28 | 35.84 | 75 | 7.05 | 7.53 | 7.29 |
| 25 | 31.18 | 33.95 | 32.56 | 80* | 6.22 | 6.54 | 6.38 |
| 30* | 28.24 | 31.04 | 29.64 | 85 | 5.39 | 5.54 | 5.46 |

* Interpolated arithmetical means.

(To be continued.)

Philippe Ricord was not only a medical specialist of the first rank, but a man of cultivated mind and refined tastes. He had a fine collection of works of art, and had a decided turn, if not for poetry, for graceful verse-making. Only about two months ago he composed a quatrain in honor of Mr. Edison's visit to Paris. He was one of the recognized wits of the French capital, and, like Falstaff, not only witty in himself, but the cause of wit in others. His encounter with M. Crémieux, at that time Minister of Finance, is well known. They met at a fancy dress ball, both being in the ordinary evening garb of civilized humanity. "You should have got yourself up as Plutus" (the God of Wealth), said Ricord to the Minister. "And you should have come as Mercury," was the retort.

## Progress of Medical Science.

THE PATHOLOGY OF EPIDEMIC DIPHTHERIA.—Criticisms and theories on this subject are always accepted as interesting if not instructive. Professor Bollinger has been working zealously at the subject of diphtheritic pathology, and more particularly the morbid changes occurring in the cells of infection and the cellular tissues. The change which first takes place is in the transformation of the nucleus of the cell affecting both the fluid and solid constituents, or its achromatic and chromatic properties. Repeated fission takes place till the entire contents of the cell are reduced to a fine granular consistence. Along with this a chemical change proceeds, ultimately transforming the nucleus and albumin of the cell into a fluid substance, which Bollinger designates as decomposition or necrobian change of the cell, that speedily reduces it to ruins. The cells that may escape destruction in this way will be observed to contain a number of nuclei, with no appearance to increase but rather to retrograde. This change in the cell substance appears to Bollinger to be effected by the absorption of the infecting poison from the fluid that bathes the cellular tissue of the throat and mouth, and the intensity depends on the amount of toxic material present. When this necrotic cell product is pent up in a large internal organ healing may take place by reabsorption, but when in the mucous membrane of the mouth and throat the cellular *débris* is poured out on the surface, forming the commonly observed pseudo-membrane, the mucous membrane at the places of exudation is consequently changed, the fibrous sheath beneath greatly infiltrated, and the walls of the blood-vessels undergo a hyaline degeneration, while necrosed particles of similar degeneration, fragmentary elements of cell destruction, with here and there a few healthy cells, are to be found in the deeper fibrous tissues. The bacterian research gives two different micro-organisms, the bacilli and micrococci. Of the bacilli there are long and short, as described by Löffler, while with the streptococci, diplococci, and tetrado of micrococci, Bollinger thinks there is proof of a compound mixture in diphtheritic infection composed of *specific bacilli* and *septic cocci*. Oertel, in discussing the pathogeny of diphtheria, attributes the disease to the decay and necrosis of the leucocytes, and the complete transformation of the cell element into a fluid consistence (hyaline degeneration), which he considers pathognomonic of the disease, although he does not deny the supposition that other diseases may assume similar changes. The infecting of other organs with the specific disease he assumes to be due to lymph transfusion, blood circulation, or the swallowing of diphtheritic products. He assumes the disease to be local in the first instance, and that after the destruction of leucocytes or cell elements the products of the *débris* become the vehicle of contamination. Bollinger concurs in Oertel's opinion, and expresses the belief that the ptomaïne arising out of the cell degeneration of bacterian vegetation which produces the pseudo-membrane is the chief communicating poison in diphtheria. From his own experiments he concludes that the pseudo-membrane, is the first outward sign of diphtheria, and that treatment should be specially directed to disinfecting the infected area by means of fluids or steam impregnated with some aseptic material. —*The Medical Press.*

RECURRENCE OF CANCER OF THE BREAST AFTER AMPUTATION.—From microscopic examinations of carcinomatous mammæ amputated by Professor Küster, Dr. Heidenhain predicted a return of the cancer in twelve cases, because parts of the morbid growth had remained in the wound. In the other cases he diagnosed a radical cure, which diagnosis had proved correct up to the date of the publication of his paper, because the operation had removed the whole of the morbid growth. The usual cause of the recurrence is that only microscopic parts of the gland or the tumor remain on the surface of the pectoralis major. In thin women the whole mamma is firmly attached to the muscle, but in obese subjects small glandular lobules are generally attached to the fascia between the mamma and the muscle, so that in amputation above the muscle small particles of gland may easily be left. Every mamma in which a single cancer node is found, according to Heidenhain, is largely, perhaps *in toto*, diseased. He found the epithelial cells of the acini proliferating in all parts of the mamma, and observed hypertrophy of the periacinous connective tissue, and he believes that these acini remaining in the wound form the origin of late secondary growths. In the retro-mammary fat there are, side by side with the blood-vessels, lymphatics leading from the mamma to the subjacent fascia, and the latter were, in two-thirds of the cases, full of metastatic cancerous masses. The pectoralis major itself is only affected when a metastatic cancer-node invades the muscle from the fascia, or the original tumor attacks it by its own simple growth. Heidenhain concludes that, to make amputation of the mamma more successful, it is necessary, even in freely movable carcinomata, not only to remove the whole mamma, but also a superficial layer from the whole of the pectoralis major, and in tumors which are closely connected with the muscle to entirely extirpate the latter.—*The Lancet.*

EXTIRPATION OF PELVIC TUMORS BY PERINEOTOMY.—At the last meeting of the German Gynecological Society, Dr. Sänger, of Leipsic, said that by the name perineotomy he meant the exposure of the ischio-rectal fossæ by the peritoneum for the removal of cysts, hæmatomas, exudates, or other tumors having their seat in the connective tissue and Douglas' cul-de-sac. A year ago he performed such an operation on a woman aged forty-two, suffering from a retro-rectal and recto-vaginal dermoid cyst. This woman has been obliged in her last six labors to have the help of a physician on account of the great development of the tumor. He made an incision of three inches, starting from the middle of the part separating the right labia majora from the anus and extending beyond this orifice; he penetrated into the pelvis, where he found a cyst having the size of a child's head; this cyst was independent of the ovary. The patient was cured perfectly. Only ten cases of the kind has he been able to find in the literature of the subject.—*The Medical News.*

TREATMENT OF HYDRARTHROSIS OF THE KNEE.—Dr. Georges Berne has adopted a plan of treatment of synovial effusion, in those cases which resist the usual methods of treatment, which has proved very successful. The treatment consists of a forcible rupturing of the synovial sac, which he terms *éclatement*, and which is followed by massage. The knee is semiflexed, when it may be noticed that the fluctuation is more marked above and inside the knee; the fluid is circumscribed, and the tumor formed is rendered tense by pressure with the hand; firm pressure with the thumb, or percussion with the edge of the closed hand, will produce an indentation, followed by a diminution of fluid effused. There can be no doubt but that a rupture or fissure of the synovial sac takes place at its weakest point—perhaps at the level of its insertion; the fluid permeates in the neighborhood of the lymphatics and veins, which are so abundant in the cellular tissue surrounding the joint. The rupture is easily effected in recent cases, as the membrane has not become thickened, and possibly the effusion is more liquid. After the *éclatement* massage must be persevered with, directed from the knee toward the groin, the form of massage being strong and deep centripetal pressures. The method is as free from danger as it is simple in execution.—*Provincial Medical Journal*, October, 1889.

HEREDITY OF INFECTIVE DISEASES.—The question whether pathogenous bacteria pass over from the mother to the fœtus has long been the object of scientific investigation. For this anthrax has offered the most attractive

field. The subject has again lately gone under review by Professor Max Wolff (*The Medical Press*). In 1858 Brand inoculated pregnant sheep, the mother died, but the progeny escaped. In 1869 Davaine, and in 1876 Bollinger, obtained like results. Since then Strauss and Chamberland, who have worked in a different way, have obtained different results. Professor Wolff's inquiry was made with a view of clearing up the doubt that has been raised by the experiments of the two previous investigators. His inquiry consisted in infecting some pregnant guinea-pigs, and later on examining the organs of the progeny after the mothers had succumbed to the disease. In every instance the results were completely negative as regarded microscopic examination; 150 cultivations were then made from the 29 fœtuses, and of these 144 showed no development of bacilli. In 6 such development was obtained. Finally, 29 control animals were inoculated from the 29 fœtuses, of which 26 escaped, and 3 were attacked by the disease and died. Particular attention was paid to the presence or absence of the bacilli in the placenta and membranes, with the result that, although they were found to be abundant in the maternal placenta, they were not once observed in the chorionic fringes. A second series of experiments was made with regard to vaccinia, 20 pregnant women were vaccinated, 17 successfully. The children themselves were vaccinated from one to six days after birth, and all successfully, a proof that the protection afforded to the mother by vaccination does not pass to the child, even when *in utero* at the time that the vaccination is performed. He finally attempts an explanation of the undoubted fact that small-pox is sometimes communicated from the mother to the fœtus *in utero*. He thinks infection may take place in one of two ways, either by hemorrhage taking place in the placenta, by which some of the maternal blood containing the variolous germs may enter bodily into the fœtus, or, in other cases, by contiguity.

On the same subject *The Lancet* says, in a recent issue, the question of the possibility of the direct transference of the virus of infective diseases from the maternal to the fœtal organism has, since the recognition of the apparent dependence of such diseases upon the presence of microbes, given rise to more than one series of experiments, and some interesting clinical and pathological observations. Among the latter is a case recorded by Eberth, in which the possibility of such transmission of the typhoid bacillus was raised. It was the case of a young woman, who, in the third week of an attack of typhoid fever, aborted at the fifth month. The fœtus was expelled within its membranes intact, and macroscopically appeared normal; but in the blood, and in fluid expressed from the spleen and lungs of the fœtus, there were found typhoid bacilli (recognized microscopically and by cultivation), which also occurred in the intervillous spaces of the placenta. Drs. Eug. Fraenkel and F. Kiderlen record a very similar case, in which, however, the abortion (also at the fifth month), though occurring in the third week of an attack of typhoid, was associated with acute peritonitis, found to be due to an ovarian abscess and double salpingitis. The placenta, fœtal blood, and spleen were examined for typhoid bacilli, but with a negative result. On the other hand, cultures of staphylococcus pyogenes were obtained from the spleen. This case harmonized with some others where there was a similar absence of the typhoid organism in the fœtus; but it is pointed out that in all these cases the placenta was normal. It would seem (as in Eberth's case) that the placenta must be diseased for such transference of pathogenic organisms to take place, and the occurrence of hemorrhage in the placenta appears to be a favorable condition for the transference. In this case, however, although typhoid bacilli were not transmitted, septic organisms were derived doubtless from the suppurating foci in the mother, and probably caused the death of the fœtus from septic infection. Fraenkel, about two years ago, injected subcutaneously cultures of the bacillus typhosus into three guinea-pigs. Two of them died in three days. They were both pregnant, and the fœtal part of the placenta was found to be hemorrhagic. The placenta and the fœtuses yielded abundance of the microbes. There have been other and contradictory observations on this subject of the transmission of microbes from mother to fœtus; some asserting it to be usual, others that it requires special favoring conditions. Netter found pneumonococci derived from the mother in a seven-months fœtus; Tizzoni and Caltani found comma bacilli in the blood and serum of a five-months fœtus. The observations are, however, too scanty to permit as yet of the formulation of any definite notions on the subject.

Chronic Tubercular Endometritis.—Dr. Jouin says that this form of tuberculosis is more frequent than tuberculosis of the other mucous membranes of the genito-urinary apparatus. This may be due to the fact that the mucous membrane of the body of the uterus is soft, spongy, and rich in tubular glands, these conditions being favorable to the development of an anærobic parasite. It has been observed and described to a certain extent by Louis, Aran, Bernutz and Goupil, and Verneuil, but the primary form has not been distinguished with sufficient clearness from the secondary by any one of these writers. Fernet described primary genital tuberculosis in a female, and spoke of its origin from sexual contact with a tuberculous man. Cornil and Chantemesse have also produced it artificially in rabbits by the injection of bacilli into the vagina. The author's studies included nine cases, in two of which the disease followed sexual intercourse with men suffering from genital tuberculosis. In two others the husbands were tuberculous, but had no apparent genital tuberculosis. In three others the cause could not be ascertained, and in the remaining two the cause was also uncertain. The diagnosis was verified once by the microscope and twice by the peritoneal inoculation of guinea-pigs. The disease is primarily a tubercular degeneration of the endometrium, but the uterine parenchyma and perimetrium may also be involved. The predisposing causes may be heredity and bad general condition, also ruptures of the cervix and repeated attacks of inflammation. The determining causes are the bacilli and sputa upon soiled linen, or even upon various instruments, and especially sexual relations with a tuberculous husband. The fungosities upon the endometrium in these cases contain bacilli, with which guinea-pigs have been successfully inoculated. As to symptoms, the patient is the subject of leucorrhœa, pain in the abdomen, scanty micturition, constipation, and sterility. After a time the uterus becomes much enlarged and very sensitive to the touch, also more or less fixed. The cervix is red and perhaps ulcerated, and a sanious matter is discharged from the canal. The patients are much more prostrated than in simple endometritis, and have emaciation, fever, sweating, and arthritic troubles. Without proper care this condition will extend to the lungs, but it may be arrested by local treatment. The diagnosis is to be made by histological and microbiological examination, but also by observing certain clinical phenomena. The disease does not begin after labor nor after blennorrhagia; the patient may not have had children, and the lungs may already present tubercular lesions. The primary form of the disease is not serious if properly cared for; the secondary form implies tubercular disease elsewhere. In treating the disease the patient should first receive creasote. Curetting may be practised, if thoroughly done, and the mucous membrane should then receive an application of creasote. Pencils of iodoform may also be introduced into the uterus, the organ having first been well dilated. This should be repeated every twelve days. Sexual intercourse should be abstained from as long as the disease continues. The hygienic and dietetic conditions must, of course, be as favorable as possible.—*The New York Medical Journal.*

The Use of Strophanthus in Children.—Dr. Demme has made a study of this subject, and has formu-

lated the following conclusions (*Archives of Pediatrics*, October, 1889). 1. Strophanthus, especially in the form of the tincture, may be given to children after their fifth year. In exceptional cases its use is followed by dyspeptic troubles. But as this agent in large doses may paralyze the cardiac muscle suddenly and unexpectedly, it should not be given in larger than three-drop doses, four or five times daily. 2. The predominant action of strophanthus is to increase diuresis, and consecutively to diminish the phenomena of venous stasis. This effect is produced by an increase in the blood-pressure, and is especially evident in connection with valvular lesions of the left auriculo-ventricular orifice, while the strophanthus does not, like digitalis, determine a compensation of the valvular lesion. In affections which are accompanied by exaggerated or even normal arterial pressure, the diuretic action of strophanthus is wanting. 3. Strophanthus also exercises a remarkable influence upon dyspnœal phenomena. This is due to the action which it also exercises upon the respiratory centres, and is seen in cases of chronic nephritis, and in such other diseases as bronchial asthma, whooping-cough, etc. 4. While there are great analogies in more than one respect between the effects of strophanthus and those of digitalis, each one possesses its own peculiar therapeutic action. Digitalis will be indicated in cases in which one wishes to obtain with rapidity a compensation for valvular lesions, with augmentation of the blood pressure, slowing of the pulse, and exaggeration of the urinary secretion. If digitalis does not produce these desired effects, they cannot be obtained with strophanthus. On the contrary, when a valvular lesion has been compensated by the use of digitalis, and it eventually becomes necessary to act anew upon the heart, in order to obtain a new increase in the blood-pressure, and a new increase in diuresis; when, in addition, dyspnœa becomes an urgent phenomenon, strophanthus will give excellent results. In such cases the combined action of digitalis and strophanthus will be indicated. 5. In no case did the author observe cumulative effect, nor weakening of the action of strophanthus, even after it had been used for a long time.

Antifebrin in Tonsillitis.—Dr. Sahli has found, both from personal experience and from numerous observations on patients, that moderate doses of antifebrin will almost invariably give great ease in cases of acute tonsillitis, thus allaying the distress of the patient, and enabling him to swallow food, stimulants, or medicine. The dose he employs is seven and a half grains, which he usually orders in a mixture with spirit and sirup, which must be shaken up before being taken. This is sufficiently agreeable to be taken readily even by children. Dr. Sahli mentions that he has found great benefit from this treatment in scarlatinal sore-throat.

Reproduction of Gastric Mucous Membrane.—The power of reproduction with which the mucous membrane of the stomach is endowed is considerable. Professor L. Griffini and Dr. G. Vasalle, after a series of experiments upon fifteen dogs, formulated the following conclusions: 1. The mucous membrane of the fundus of the stomach, removed in dogs, for a considerable extent and in its entire thickness is always reproduced, including the peptic glands. 2. The newly formed glands are developed from the new epithelial layer which in the beginning covers the wound. This epithelial layer itself is developed from the epithelium of the glands upon the borders of the wound, thus demonstrating the possibility of the development of an epithelial layer in its totality from true glandular epithelium. 3. The pepsin cells of the newly formed tubular glands are developed in the beginning through a differentiation of the cells of the tubular glands themselves, and this formation originates in the bottom of the tubules, whence the cells are pushed upward. 4. The reproduction process of the peptic glands finds its exact prototype in the process of embryonic development. 5. The reproduction was quite rapid in all the animals, which were strong and healthy and placed amid favorable surroundings. In one case the development was tardy, owing to a considerable loss of tissue and an unsuitable diet. 6. Perforation of the wall of the stomach never followed removal of the mucous membrane, even though the muscular tunic had been seriously injured.—*The Medical Bulletin.*

Asthma and the Uterine System.—Dr. Peyer has recently written on an affection which he terms sexual asthma. He maintained that asthma was always neurotic, and that in different subjects asthmatic convulsions were brought on by the influence of different physical functions. In two young married women coitus caused violent attacks of asthmatic sneezing. In another case the patient suffered from uterine fibroid, with severe asthma, which disappeared after the removal of the tumor. A patient was subject to violent asthmatic fits; on her becoming pregnant for the first time, the asthma was completely cured. In a similar case of asthma, the patient suffered from chronic metritis. When the uterine affection was cured, the asthmatic complication disappeared. In all Dr. Peyer's cases the patients were more or less hysterical, and in two there was a distinct family history of neuroses. The physician must be careful now to distinguish between the possible coincidence of true asthma and disease of the sexual functions and the alleged form where the former is an effect of the latter. In the case of coincidence it is perfectly easy to understand that any aggravation of uterine or ovarian disease and any irritation of the sexual functions might aggravate the asthma. The other condition is less easy to understand, and very hard to prove in a scientific manner.—*The British Medical Journal.*

The Ultimate Results of Extirpation of the Uterus.—Dr. Munchmeyer, of Dresden, said that at the obstetrical clinic of Dresden, from 1883 to 1889, there had been performed 110 extirpations of the uterus, of which 80 were for carcinoma and 30 for other diseases. Out of the 80 operated on for carcinoma, 4 died from the immediate effect of the operation—that is, five per cent.; 1 died from strangulated hernia, 2 from septicæmia, and 1 from peritonitis. Out of these 80 operated upon, 10 died from a recurrence of the disease, 4 of intercurrent affections, while others have had one recurrence. Forty-one who have been operated upon during this past year have had no return of their trouble, and in 17 women operated upon two years ago the cancer has not reappeared. Among this last series 3 have had no recurrence for three years, 1 for four years, and 1 for five years. He thought it very important that the operations should be performed as early as possible. Out of the 30 other extirpations, 17 were for myomas, 5 for prolapse, 5 for severe nervous troubles, 3 for diseases of the annexes of the uterus. Most of them were operated on by the vaginal method, or supravaginal. The vaginal method leaves patients in a state in which they are less liable to take cold; and, on the other hand, certain women cannot resist an abdominal incision, which is due to a weak state of the cardiac function. Out of 110 extirpations of the uterus, there were only 6 deaths—that is, 4.5 per cent.—*Medical News.*

A "Vaccine" for Infantile Diarrhœa.—M. le Docteur José Triano, of Columbia, asserts that a drop of balsam of copaiba, placed on the umbilical cord of newborn infants after section, protects them from athrepsia and choleraic diarrhœa. It acts as a vaccine, and is a certain prophylaxis for these affections. Previous to Dr. Triano's discovery, the infant mortality resulting from them in Columbia, like in France, was considerable, but now they have almost disappeared.

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The North Texas Medical Association will meet in Gainesville, Tex., on Tuesday, Wednesday, and Thursday, December 10, 11, and 12, 1889.

THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## ON ESSENTIAL TACHYCARDIA.

M. BOUVERET devotes a long article in the *Revue de Médecine* for September and October, 1889, to the description of a curious and, as he thinks, distinct disorder of the heart, viz., "essential paroxysmal tachycardia." It is a disease occurring in adults, and characterized by paroxysms of cardiac palpitation in which the pulse goes up to 200, 230, or even 300 per minute. The paroxysm lasts from a few hours to several days. If it is short the patient suffers very little distress. Absolutely no signs of organic cardiac disease are recognizable.

M. Bouveret reports three cases of his own in detail, in one of which death occurred. He succeeds in finding nine other similar cases.

Tachycardia is common enough but M. Bouveret insists that in "essential paroxysmal tachycardia" there is no organic disease, and moreover that it has the peculiar characteristic of being accompanied with few or no symptoms pointing to the involvement of other organs.

The cases which are collected have been reported by three English and five German physicians. We are under the impression that American observations have been made upon this subject but none are referred to by M. Bouveret.

From an analysis of the reported histories it is found that the attacks of tachycardia are of two kinds, viz., short and long. The short attacks come on with slight prodromes of vertigo, epigastric distress, etc. No cause is usually assigned. The pulse runs up to at least 190 or 200 a minute. There is a slight bruit often heard, while in place of the cardiac impulse one feels on palpitation a sort of vibration of the chest-wall. The patient becomes pale and suffers a little dyspnœa but feels no serious distress. The attacks cease abruptly.

The long attacks usually last five or six days, but may be prolonged several weeks.

The symptoms are much like those in the short attacks, except that after a few days the patient begins to suffer seriously from dyspnœa, cyanosis, and all the symptoms of heart-failure. Percussion shows, also, that the heart dilates very considerably. Among the eleven cases collected by Bouveret, four died during the long attack. In the other cases, however, the disease lasted a long time, and during the intervals the patients suffered very little.

The cases observed have occurred in persons ranging between the ages of nineteen and forty years, and the disease has attacked the two sexes about equally. The only important etiological factor noted has been excessive mental and physical strain.

Only one autopsy has been made upon the victims of this malady, and in that case no lesion was discovered either in the heart or nervous centres. Bouveret excludes any bulbar lesion, for the reason that in all cases of rapid heart-beat, due to such a cause, there are other symptoms, and in addition, the pulse-rate does not go above 150 or 160.

Dr. Bouveret cites cases of paroxysmal tachycardia due to organic disease of the heart, to gastro-intestinal disorders, and to uterine and ovarian disease. He also recognizes those forms of tachycardia described by Riegel and by Rosenbach, in which there are associated pulmonary and abdominal symptoms.

But he believes that there is a special type of tachycardia in which the only primary symptom is the rapid heart-beat.

The treatment recommended for the attacks is rest, digitalis, and a trial of compression of the pneumogastric in the neck. One patient could abort or relieve the tachycardia by taking a deep breath and holding it. In the long attacks, with much cardiac dilatation, venesection is suggested.

## ENOPHTHALMUS TRAUMATICUS.

THIS condition—a sinking back of the eye into its socket—is apparently very much less frequently observed than the contrary condition of exophthalmus. Apart from those cases in which it is seen in cholera, six writers have published notes upon it, each having seen only one case. In the *Archives of Ophthalmology*, September, 1889, a translation is given of a recent article by Dr. Gessner, in which he describes and discusses three cases of enophthalmus of traumatic origin, seen at the clinic of Dr. Nieden, of Prussia. The three cases presented very similar histories, of which one may be given as a specimen. A miner was knocked down and cut about the forehead by a piece of coal or stone. He was rendered insensible for a time, and was confined to his bed for three weeks, with swelling of the injured parts. When the swelling of the eyelids was sufficiently reduced to permit the eye to be seen, it was found that this eye was farther back in its orbit than the other, or, as the patient erroneously expressed it, "was smaller than the other."

Upon examination the affected eye presented the appearance of an artificial eye. A scar, the result of the injury, was found running from the incisura supraorbitalis (supraorbital foramen [?] ) to the corner of the lid. The upper lid was sunken, and drooped somewhat. The palpebral fissure was smaller than on the other side. The eyeball lay several millimetres deeper than normal. Its movements in an upward direction were slightly restricted, and in other directions they were sluggish. The cornea and other parts of the ball were apparently unaffected by the injury, and no change could be discovered upon ophthalmoscopic examination. Pressure upon the ball gave no pain. Vision seemed to be little or not at all affected.

The presence of microphthalmus could be excluded in each case by the equality of the cornea, the refraction, and also, in two cases, by the acuteness of sight in both eyes.

The enophthalmus was probably the result of wasting

of the retro-bulbar tissue, the sinking back of the ball being, perhaps, aided somewhat by pressure of the lids upon it. The contused wound of the orbital margin would naturally cause inflammation of the periosteum, which would spread to the cellular tissue behind the eyeball. Inflammation of the muscles of the eye need not to be supposed as the cause of the restrictive motion of the ball. The sluggishness of the muscles is explained sufficiently by their relaxation, caused by the sinking backward of the globe of the eye.

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### NOTHNAGEL ON THE TREATMENT OF HEART DISEASE.

In an interesting clinical lecture upon the above subject (*Medical Press and Circular*) Professor Nothnagel discusses the various modern methods of treating heart disease, viz., the calomel treatment, the cardiac-tonic treatment, the hydriatric and the Oertel treatment. He speaks first of the use of digitalis and gives this drug preferably in the form of a powder with quinine, *e. g.*: ℞. Pulv. digitalis, gr. ss.; quiniæ sulph., gr. iss.; sacchar. pulv., gr. vj. M. Sig.: j. q. 2 h.

Nothnagel believes in the cumulative action of digitalis, and there is no doubt a final tonic effect when doses are kept up continuously every two hours. It is strictly enjoined, therefore, that this indication be not continued for more than five or six days. There is no drug equal to digitalis when the cardiac muscle is not seriously involved. If its effect becomes lessened, or it is necessary to stop its use for a time, the digitalis treatment may be alternated with a course of caffein. This drug is better given combined with a salicylate or benzoate of sodium, and it is prescribed by Nothnagel in doses of five grains five times a day.

Strophanthus is spoken of as a useful cardiac tonic, but less powerful and certain than digitalis.

Considerable space is devoted to the calomel treatment brought into notice by Jendrassik about three years ago. Nothnagel is convinced of its efficacy but ventures no opinion as to how the drug does its work. It should only be used in properly selected cases and should not be employed until digitalis has been tried. The following prescription is given: ℞. Calomel, gr. iij.; sacch. lactis, gr. viij. M. Sig.: j. four times daily.

Nothnagel says: "For three, four, or even five days the quantity of urine will remain unaltered, after which time it may rise from 300 c.c. to 7,000 c.c., *i.e.*, from *circa* one-third litre to seven litres (one-half pint to two gallons). In four days salivation will be produced, which indicates a withdrawal of the drug. Chlorate of potass or tinct. of rhatany as a gargle may be given. An unhappy complication is diarrhœa, for which opium must be given, but if constipation, jalap may be combined with calomel. My own experience of a surprisingly small quantity of urine passed, raised in a few days to 10,000 c.c., continuing at that for a few days till the dropsy disappears, and then gradually reducing the quantity leads me to believe in the efficacy of the drug. In many cases I found the calomel refused to affect the system, and in these cases the diuresis remained also unaffected, but after waiting six days I have repeated the mercury, when the effects were immediate. The opposite of this occurs also. I have had perfectly satisfactory results for the first time, but after that the physiological effects of the drug could not be produced. The improvement from this treatment usually lasts about eight weeks, when it may be repeated. I have had some cases where I have repeated this treatment eight times in a year with the best results, but alas! after a time the calomel becomes inert in the system, varying from one to a year and a half when it gradually becomes useless, and life soon ebbs away."

The Oertel treatment has for its object: 1, To reduce the amount of fluid taken into the body; 2, to gradually excite the muscles of the heart to contract.

"Most physicians," says Nothnagel, "are agreed to-day that this method of treatment is not for valvular disease. It is certainly excellent in dropsical conditions arising out of myocardy, fatty heart, so-called beer heart, idiopathic hypertrophy, or dilatation of the heart, in short, in all cases where the *muscle* of the heart is at fault, but not when the valve lesion is the cause. One factor in the treatment is to work the muscle of the heart and thus increase its muscular tissue, but where there is valvular imperfection there is much injury done by the treatment of Oertel."

If one is confronted, however, with a case of valvular disease, where compensation has established itself, but by some means or other the heart does not contract as well as it might do, and that œdema of the limbs, etc., is becoming ominous, the Oertel treatment may be tried to restore the disturbance by more hypertrophy.

As to the second part of Oertel's treatment, it is reasonably good. It is well known that a great amount of fluid swallowed must rapidly pass into the circulation, and load the heart and impede its action. To reduce the fluid taken in to the very minimum must have beneficial effects.

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### A NEW ADVANCE IN THE TREATMENT OF UNUNITED FRACTURE.

Every surgeon knows how difficult it is in certain cases to get a broken bone to heal by bony union. The ends may be pegged and hammered and sutured indefinitely without success. In the case of fracture of the radius there are oftentimes special difficulties, since resection—the last resource of the surgeon—leaves a gap between the ends of the radius, which is now shorter than the ulna beside it, and so it is almost impossible to bring the bared ends of the fractured parts into apposition and to keep them there. Even if a piece be cut out of the unfractured ulna, so that the inequality in the length of the two bones is removed, a satisfactory result cannot always be obtained. In *The Lancet*, October 26, 1889, Professor McGill, after commenting upon the above facts and relating his failure with the last-mentioned procedure, explains a new method which he applied successfully in one case, taking the hint from a suggestion made by Dr. MacEwen, who proposed, in case of destruction of the shaft of the humerus by acute necrosis, that a new shaft should be secured by transplantation of bits of new bone.

In Professor McGill's case a man, twenty years of age, had fractured both bones so that the ends of the radius protruded through the wound on the radial side of the forearm. The ulna healed quickly and well, but the radius remained ununited, although the ends had been re-

freshed and wired three months after the accident. Some eight months afterward he came to the hospital. He had a scar over the wound, and the ends of the radius were quite movable, the usefulness of forearm and hand being much impaired. An Esmarch's bandage was applied and an incision was made in the line of the old scar. The ends of the bone showed no signs of union, but were rounded and covered by a thick membrane-like periosteum. When this had been filed away, an interval of three quarters of an inch was left between the fragments. This interval was filled with thirteen pieces of bone, each about one sixth of an inch in length, chiselled from the femur of a freshly killed rabbit. The bones were not wired. The skin-wound was tightly stitched, without drainage, with catgut. Firm pressure was applied by means of salicylated wool and bandages, and the forearm was placed on an anterior splint. There was no suppuration and very little discharge. The patient left hospital in six weeks, with the bone firmly united. Three months later the injured arm was as useful as the other. Is it not possible that this method used by Professor McGill may be of service in the treatment of old ununited fractures in other parts? It is possible that a more vigorous action might be set up, by presence of the implanted healthy bone, than would naturally occur in the fragments of a fractured long-bone in a person of feeble constitution.

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## SANITARIA FOR CONSUMPTIVES.

Dr. Paul H. Kretzschmar gives an account of the development and work of the sanitaria for the treatment of consumptives in the United States in a recent issue of *The Medical News*.

Such institutions are, it is admitted, not as a rule necessary for wealthy persons, but those of moderate means can, in many instances, be best taken care of in special institutions where the therapeutic measures can be applied more cheaply on a wholesale plan. In Germany there are a number of hospitals in which consumptives receive treatment. The recent general acceptance of the infectious theory of phthisis has raised some protest against the aggregation of this class of patients, but we do not think that the objections made against them will stand. Phthisis is but very slightly contagious, and it seems to be admitted that those who contract the disease must have not only the bacillus but a favoring soil for its development. Besides this, the measures for preventing spread of the contagion have been carefully studied out, and are quite well known. The sanitaria for phthisical patients in this country, so far as known, are one at Saranac Lake, one at Asheville, N. C., one at Lake Palmer, Col., one at Colorado Springs, and a camping-out organization which has its headquarters at Santa Fé, New Mexico.

The results of treatment at the Saranac institution, as given by Dr. Trudeau, are certainly very encouraging. He says: Up to the end of 1888, 146 consumptive patients have been treated, and the results have been about as follows: Deaths, 4, or not quite 3 per cent.; failed steadily, 25, about 17 per cent.; stationary or slightly benefited, 38, about 26 per cent.; disease arrested, 63, or 43 per cent.; and cured, 16, or 11 per cent.

The results in the year 1888–9 are said to have been even still better, about 14 per cent. having been cured and 20 per cent. restored so that they could return to work.

At Saranac the main reliance is placed upon the out-door life. Among drugs, antifebrin and creasote are much used. The pneumatic cabinet is also still employed. At Asheville, oxygen inhalations are given, but creasote has been entirely abandoned, according to Dr. Kretschmar; while Dr. Detweiler constantly uses alcohol, it is not given at the Saranac institution and only moderately at Asheville.

The following rules, which are placed in the hands of every inmate of the sanitarium at Saranac Lake, can be read with profit by all who have phthisical patients to treat:

*Out-of-Door Life.*—Patients gradually accustom themselves to leading an out-door life, that is, to remaining eight to ten hours in the open air each day. This should be done gradually, and at first the clothing should be heavy and the exposures to cold or inclement weather moderate in duration. Little by little the open-air sittings and walks are to be increased until the entire day is spent out of doors in all kinds of weather. In stormy weather the sheltered side of the verandas should be used for walking or sitting. When feverish, patients are urged to go out and remain sitting on the verandas well wrapped in suitable clothing.

*Exercise.*—Violent exercise is injurious. When feverish, patients will do well to make as little exertion as possible. Fatigue, when induced in persons still having active disease, is sure to be followed by loss of appetite, fever, exhaustion, and even sweating. Severe exercise in hot weather is injurious and may be dangerous. Patients will be informed by the physician how much exercise their case requires.

*Food.*—If unable to eat at the regular meal hours, patients will do well to drink milk every four hours.

*Expectoration.*—Patients are required always to use the large spittoons in the public rooms and on the verandas, and the pasteboard ones in cottages; the latter should be burned every day in the stoves or fire-places. Expectorating in handkerchiefs or on the floors, or even on the grounds in the immediate vicinity of the buildings, is strictly prohibited.

It has been found that while moist sputum is harmless, when it becomes dried it will rise as dust, and may be inhaled. The above directions are given to guard against this result. Patients, for their own welfare and in order to assist in their rapid recovery, will strictly observe these rules, and will be liable to dismissal for wilful disobedience in this matter, which involves not only their own welfare but that of others.

*Stimulants.*—Stimulants are not allowed except under medical advice. No smoking is allowed at any time in the public rooms or on the piazzas. Patients are requested not to smoke at all unless permission is given by the physician.

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As a Remedy against "Electrical Sunstroke," as the affection is called that attacks men exposed to the intense rays of the electric arc by means of which metals are fused and welded, is a veil or mask of glazed taffeta, supported by a wicker head-piece, and provided with goggles of gray glass.

# News of the Week.

SIR MORELL MACKENZIE has been vindicated by the Royal College of Surgeons. Though condemned by the Council of the College for publishing his book concerning Emperor Frederick, he had but one accuser at the general meeting.

THE PROJECT OF BUYING UP A COUNTRY for purely sanitary reasons, because it is a fitting one, is certainly original, and has the merit of going to the root of the difficulty. Dr. Lee, of Philadelphia, proposes that the United States buy up the island of Cuba and stamp out the yellow fever there.

DEATH OF DR. RUDOLF TAUSZKY.—Dr. Rudolf Tauszky, at one time a well-known physician of this city, died on September 21st, at Bloomingdale Asylum, where he had been a patient for over three years, having been confined there soon after making an attempt to kill his young wife and to commit suicide. Dr. Tauszky was about fifty-three years of age at the time of his death. Dr. Tauszky, who was born and educated for the medical profession at Pesth, Hungary, came to this country in 1862, was a hospital surgeon in Washington, and afterward served a little time in the field. He came to this city in 1868 and was successful in building up a practice. He served on the Board of Health for a time and became interested in the tenement-house problem, and lectured and wrote a great deal on sanitary reform. He was for nearly ten years connected with Mount Sinai Hospital. For some years before his retirement he was frequently called as an expert in cases of alleged insanity.

GONE OVER TO THE QUACKS.—It is stated in the daily papers that two physicians of Buffalo, formerly connected as teachers with the medical school of the Niagara University, have recently set medical ethics at defiance and gone into the business of advertising themselves as specialists. They have been dismissed from the Faculty.

AN ASYLUM BURNED.—The Idaho Insane Asylum was destroyed by fire on November 25th, and eight lives were lost.

AN ANGLO-AMERICAN VIENNA MEDICAL ASSOCIATION has been formed for the purpose of furnishing information to English speaking medical men coming to study in Vienna. The office will be at No. 12, Landesgerichts Strasse. Membership will be open to any British or American physician, or medical student, on payment of an entrance fee of one gulden.

THE EIGHTH CONGRESS OF RUSSIAN NATURALISTS AND PHYSICIANS will be held at St. Petersburg, from December 27, 1889, to January 7, 1890.

PROFESSOR BARDELEBEN.—A bronze bust of Professor Adolf Bardeleben, subscribed for by his pupils and friends on the occasion of his seventieth birthday, which he celebrated in March last, was unveiled on October 10th.

STERILIZED LINT.—M. Regnier renders lint sterile by heating it to a temperature of 120° C. (248° F.). M. Regnier has tested the antiseptic value of lint thus prepared in dressings applied after operations of various kinds with good results. At the recent Surgical Congress he stated that he considered sterilized lint equal to antiseptic dressings.

BY M. RICORD'S WILL a sum of ten thousand francs is given to the Académie de Médecine, and five thousand to the Surgical Society, to found prizes.

ORGANIZATION OF A STATE SOCIETY IN THE NEW STATE OF WASHINGTON.—In response to a call by the President of the Territorial Medical Society, there was a largely attended meeting of the profession at Tacoma, October 21st and 22d. The Territorial Society, as such, adjourned *sine die*. The formation of a State Society was then proceeded with, and the following officers were elected: *President*, Dr. Edward L. Smith, Seattle; *First-Vice-President*, Dr. J. S. Wintermute, Tacoma; *Second Vice-President*, Dr. M. Pietrzycki, Dayton; *Treasurer*, H. S. Willison, Port Townsend; *Secretary*, Dr. C. L. Flannigan, Olympia; *Board of Censors*, Drs. Shaver, Heg, Crump, Boswell, and Essig; *Board of Trustees*, Drs. Van Zandt, Van Buren, Merrick, Libby, and Marion. The regular standing committees were also appointed. There are about sixty-five charter members of the Society. The next meeting will be held at Spokane Falls on the second Wednesday in May, 1890.

A PROFESSOR OF HYGIENE AND PHYSICAL CULTURE has been endowed, in the sum of $25,000, at the Pennsylvania College at Gettysburg, by the parents of the late Dr. Charles H. Graff.

MEMORIAL TO THE LATE DR. CABELL.—The new chapel at the University of Virginia, in which the late Dr. James L. Cabell took such active interest, will contain a memorial window in his memory. Contributions for that purpose of not more than $3.00, by alumni of that institution, may be sent to Dr. William C. Dabney.

AN EFFORT is being made to start another Woman's Medical College in Cincinnati.

PROFESSOR S. B. HOWELL has resigned his chair in the faculty of the University of Pennsylvania. Edward D. Cope was elected to succeed him.

LIMITATION OF OFFSPRING.—A discussion is going on in the columns of *Kansas* the *Medical Journal* upon the subject of the "limitation of offspring." A correspondent ventures to deny the accuracy of Burns' "Cotter's Saturday Night," and says that, in point of fact, "at night the brood comes training home, each with a dozen questions to propound, and all begin at once, while she (the mother) with aching limbs and throbbing head, becomes bewildered and exclaims, 'Get out! Go away, you torments, you,' and no question gains attention." Burns finds a warm champion in the editor of the *Journal* however, who shows by statistics that the presence and possession of children prevents suicide and insanity. Arguments upon this subject are of little weight. No person with any moral sensibility or medical knowledge whatever would ever attempt to justify fœticide and abortion.

AN AMERICAN HOSPITAL IN PERSIA.—The corner-stone of an American hospital at Teheran was recently laid by the Minister of the United States to the Court of the Shah. The proposal to erect the hospital originated with Dr. W. W. Torrence, of Teheran, and funds have been obtained partly by donations raised in America and partly by subscriptions in Persia itself, many distinguished Persians having made generous contributions.

# Society Reports.

## SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Second Annual Meeting, held in Nashville, Tenn., November 12, 13, and 14, 1889.*

FIRST DAY, TUESDAY, NOVEMBER 12TH—MORNING SESSION.

THE Association convened in the Senate Chamber, and was called to order at 10 A.M. by the President, HUNTER MCGUIRE, M.D., of Richmond, Va. Prayer was offered by the REV. R. L. CAVE.

The report of the Committee of Arrangements was made through its chairman, J. R. Buist, M.D., of Nashville.

DR. R. B. MAURY, of Memphis, contributed a paper entitled

### REPORT OF GYNECOLOGICAL WORK, WITH ESPECIAL REFERENCE TO METHODS.

The paper presents a brief summary of the more important portion of his operative work during the past year. With four exceptions, all of the operations reported were done in a private hospital, built especially for the purpose and under his own control. The summary embraces 21 laparotomies for the removal of ovarian tumors, or of the uterine appendages, or for the relief of obscure disease within the abdomen; 2 laparotomies for ectopic gestation; 28 operations for laceration of the cervix; 14 perineal and vaginal prolapse operations; 5 rectoplasties; 4 anterior colporrhaphies.

Dr. Maury summarized the methods as follows:

1. An aseptic field of operation and an aseptic surgeon. 2. A small incision, in the case of inflammatory disease in the pelvis, just large enough to introduce, and work with, two fingers. 3. Aseptic silk ligatures, as fine as may be consistent with safety in tying. 4. Enucleation of diseased structures, in spite of firm adhesions and even profuse hemorrhage. 5. Irrigation by means of the siphon-trocar, as a substitute in most cases for sponging. Using simple hot water for this purpose and excluding all antiseptics. 6. Drainage often, and whenever one is in doubt as to its necessity. 7. Careful replacement by spreading out of the omentum before proceeding to close the wound. 8. Inclusion of all the structures in passing the abdominal wall sutures, and replacing the deep sutures half an inch apart. 9. The use of means for moving the bowels on the second or third day after removing the appendages, and the avoidance, if possible, of opium. Discussed by Drs Wathen, Price, Stone, Potter, and Johnstone.

DR. W. O. ROBERTS, of Louisville, Ky., read a paper on

### DIRECT HERNIOTOMY,

in which he reported ten cases, and did eleven operations. Seven cases occurred in females, three in males. Three were cases of umbilical hernia, three were femoral, three inguinal, and one ventral. Six of the operations were done during strangulation, while five were performed for troublesome, irreducible hernias. In the six cases of strangulated hernia the sexes were equally represented. Three were inguinal, two femoral, and one umbilical. In five of them the operation for radical cure was done. The remaining case was one of strangulated hernia where stercoraceous vomiting existed for eight hours before it was seen. General peritonitis was evident at the time of the operation. Much reddish stuff escaped when the contents of the sac were returned. Death followed in thirty-six hours. He had since thought that if, after returning the contents of the sac, he had done a low median laparotomy and washed out the peritoneal cavity, the result might have been different.

The four cases of irreducible hernia were all in females. Two were umbilical, one femoral, and one ventral. In one of the former a second operation was made necessary by the hernia recurring at the end of six months. The tumor also reformed, at the end of ninety days, in the case of femoral hernia. The remaining eight cases continue well to the present date.

In all the cases the sac was first cleanly dissected out, and not opened until all hemorrhage was entirely checked. Both in the ventral and umbilical hernias the integument and fascia were divided by an elliptical incision. After opening the sac all adherent omentum was tied with catgut and excised. The remaining contents were then returned into the cavity. In one case of umbilical hernia the neck of the sac was tied close to the margins of the opening, and cut away immediately in front of the ligature. The stump was then fastened tightly in the opening with silk-worm gut sutures, and the wound finally closed by interrupted sutures of the same material. In this case no suppuration occurred, but the hernia recurred at the end of six months. In both the other umbilical and in the ventral hernias the neck of the sac was excised on a level with the abdominal opening and sutured with catgut. The opening itself, after its edges were freshened, was closed with the continued suture of chromatized catgut in the ventral hernia and aseptic corded silk in the umbilical cases. The superficies were brought together by silk sutures, which were continued down to the aponeurosis.

In the femoral hernias he adopted the practice of Mitchell Banks. In the cases of direct inguinal hernia, after tying the neck of the sac just within the ring, and removing all in front of the ligature, the ring was closed with catgut sutures.

In the cases of oblique inguinal hernia he did Mr. Ball's operation, which consists in freeing the neck of the sac up to the internal opening, ligating it, cutting away all in front of the ligature, then twisting the neck upon itself to effect closure of the peritoneal orifice, and finally stitching the stump to the pillars of the ring to guard the neck against untwisting itself.

DR. VIRGIL O. HARDON, of Atlanta, Ga., read a paper entitled

### THE ABORTIVE TREATMENT OF ACUTE PELVIC INFLAMMATION.

He said the views held by gynecologists in regard to acute inflammation in the female pelvis have, within the past few years, undergone a radical change. The inflammatory processes formerly regarded as idiopathic, or at least as primary affections, are now almost universally recognized as dependent upon antecedent disease in the ovaries or Fallopian tubes, especially the latter. This change of opinion has to a large extent been due to the result of advances in surgery, which have enabled the conditions of the pelvic organs to be studied in the living subject by immediate inspection and palpation, instead of through the medium of the vaginal tissues; consequently it is even that a change of opinion on this subject has been most marked among those men who have had large experience in abdominal work. The diagnostic value of abdominal section, under such circumstances, is almost as great as that of post-mortem examination, and hence the opinion of the laparotomist is entitled to very great weight. As a result of this mode of observation, the conclusion cannot be avoided that acute pelvic inflammation is, at least in the majority of cases, associated with septic, gonorrhœal, tubercular, or some other form of inflammation of the tubes. There are two forms of inflammation which are recognized as occurring within the pelvis as a result of tubal disease—pelvic cellulitis and pelvic peritonitis. In many cases both forms of inflammation are simultaneously present in the same subject, and it is not improbable that in all cases when either is present, the other also exists in a greater or less degree.

It is hardly possible, when one considers the anatomical relations of the pelvic cellular tissue to the peritoneum, to

conceive of an inflammation of the one structure without a greater or less implication of the other. In the majority of cases one form of inflammation can be recognized as forming the preponderating element of the disease, to which the other plays only a secondary rôle.

The constitutional symptoms consist of acceleration of the pulse, elevation of temperature, severe pain in the pelvis extending down the thighs, tenderness of the hypogastric region and inguinal region, a sense of weight and fulness in the pelvis, difficult micturition, painful defecation. These symptoms are most marked in the acute stages, and are somewhat diminished as soon as solidification has taken place. They continue, however, with lessened intensity, into the third stage of the disease.

The treatment consists in the withdrawal of the effusions from the cellular tissue by means of the aspirator, etc. Where pus-tubes are present we would advocate their removal.

Dr. Joseph Price, of Philadelphia, said his experience was a little different from that of the essayist. Relief from salines and the aspirator in the cases reported may have been justifiable, but pus-tubes in every instance call for abdominal section. He then exhibited some pus-tubes, one of which was seven inches in length, and called attention to their frequency in cases of pelvic inflammation. He said, thirteen years ago a woman living in Pottsville was treated by a prominent gynecologist for pelvic peritonitis. Sponge-tents were used, and the patient made a doubtful recovery. Eight years ago Dr. Goodell effected drainage through several sinuses then existing, three or four being about the sacral region, two or three in the groins, and one in the anterior abdominal wall Six weeks ago Dr. Price evacuated two gallons of pus in the same patient. A perfect recovery was brought about in some of his cases only by abdominal section and the removal of pus-tubes. The history and symptoms in his cases were identically those mentioned by Dr. Hardon. In the light of our present accurate knowledge, acquired by a large experience in the pelvis, the conclusion is that the entire subject of pelvic peritonitis and cellulitis will have to be rewritten. The sharp distinctions between the one and the other are refinements that the surgeon no longer seeks. Peritonitis the result of tubal and ovarian disease is exceedingly common. Gonorrhœa is the most common cause of all.

Dr. George J. Engelmann, of St. Louis, said there was a fascination in the results achieved by Dr. Price and other operators, but he thought the pendulum was swinging too far in that direction. He could endorse the surgical treatment advocated by Dr. Price in dealing with cases of pelvic inflammation which result from salpingitis, or where there was pus in the tubes. Many of the cases which were formerly called pelvic cellulitis are the sequences of salpingitis or pus in the tubes, and he was satisfied there are cases which exist without salpingitis.

Dr. W. G. Ewing, of Nashville, said that when he began to practise he was on the conservative side, but is satisfied that many of the cases which came under his observation could have been dealt with surgically and successfully. He favored early operative interference, and said the surgeon should not delay in such cases, for by so doing additional adhesions were apt to form with extension of the inflammatory process.

Dr. Hardon, in closing the discussion, said he feared he had been misunderstood, but would now say that pus-tubes admitted of but one rational treatment, and that was their removal. He invariably recommends this to be done, but what should the surgeon do with those patients who will not permit an operation?

As regards pelvic cellulitis without disease of the tubes, he could corroborate the statements of Dr. Engelmann, and called attention to two cases he reported last year to the Association which verified the fact. In these cases he aspirated and withdrew several drachms of serum from the cellular tissue. Subsequent examination revealed absolutely no disease of the tubes. He has examined these patients from time to time, but not the slightest evidence of tubal disease could be found, and there has been no recurrence of the pelvic inflammation.

Dr. W. D. Haggard, of Nashville, read a paper on

THE IMPROVED CÆSAREAN SECTION VERSUS CRANIOTOMY,

in which he said that the improved Cæsarean section offers justifiable means of saving both mother and child, and relieves the heart and conscience from the charge of scientific murder. Embryotomy on a living child will soon cease to be regarded as a scientific, or even a justifiable, operation. This seems to be foreshadowed by the statistics of Caruso, who reports a case in detail by Sanger and one by Zweiffel, and adds statistics up to October, 1888, comprising 135 cases. Six successful cases were known in addition to Caruso, but the details necessary for publication were lacking. German operators have performed 74 of these operations, Americans 18, Australians 16, the results obtained by American surgeons being inferior to those of German and Australian operators. The results show a large per cent. of recoveries among mothers in all cases, and a still larger per cent. in the case of children. In three cases in which the operation was done a second time, both mothers and children recovered. A careful estimate of the results of craniotomy under antiseptic precautions shows that 23.04 per cent. of mothers recover. Selecting similar cases on which section was performed, the percentage of recoveries in these cases was 89.04 and 100 per cent. of children.

Dr. W. H. Wathen, of Louisville, read a paper on the

TREATMENT OF ECTOPIC PREGNANCY.

He said, in order to adopt the best treatment in ectopic pregnancy, it is necessary to know its correct pathology; failure in this particular has resulted in a variety of methods of treatment, and gynecologists of good ability differ widely in their views. But physicians who recognize that ectopic pregnancy is probably always tubal in its origin, are united in their opposition to the use of electricity or other means to destroy fœtal life. They prefer the removal of the gestation sac by laparotomy. He referred to the fact that Thomas adheres pretty much to the old classification of Parry and De Zeimeris, and that he speaks of an "impregnated ovum attaching itself primarily to the peritoneum, and of a fœtus and placenta entering the peritoneal cavity by rupture and developing there." He denied the possibility of an ovum attaching itself primarily to the peritoneum, and said that the placenta could not become separated from the tube and then become attached to other structures; the ovum must be held immovably in one position before its villi can penetrate the tissues; the placenta may become slowly separated from its tubal attachments, and fasten itself to other structures by making epiphytic inroads upon the abdominal walls or viscera by stripping off the peritoneum.

He did not believe that a classification based upon old statistics of post-mortem examinations could be correct, because these examinations were made by men not trained in pathological and microscopical research, who could not accurately distinguish the tissues, often matted together and entirely changed in physical appearance.

He divided the treatment of ectopic pregnancy as follows: 1. The treatment before primary rupture of the tube. 2. The treatment after rupture of the tube into the folds of the broad ligament, and before the period of fœtal viability. 3. The treatment where the sac ruptures into the peritoneal cavity. 4. The treatment after fœtal viability, and at the full period of gestation. 5. The treatment after death of the fœtus, at or before the full period of gestation.

He did not believe that a correct diagnosis is ever probable before primary rupture, and in no instance would he use electricity to destroy fœtal life. He preferred laparotomy, and claimed that the immediate and subsequent results would be better. He said, that while Dr. Harbert in 1849, Kiwisch in 1857, and Dr. Rodgers

in 1867, had suggested the removal of the sac in tubal rupture, he was probably the first to recommend its removal, if the diagnosis is made before rupture. If the tube has ruptured into the folds of the broad ligament, and pregnancy has continued four and a half or five months, he advised expectancy, and to operate after fœtal viability, but before the beginning of false labor. He advocated the removal of the placenta and fœtal membranes where it is possible to do so, and control hemorrhage by ligation *en masse* at the proximate end of the large vessels. If this cannot be done, it is best to leave the placenta to be absorbed and close the abdominal wound aseptically, after the fashion recently described by Mr. Tait.

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AFTERNOON SESSION.

DR. W. H. WATHEN, of Louisville, read a paper entitled "The Treatment of Ectopic Pregnancy." This paper was followed by impromptu remarks on "Perineorrhaphy," by Dr. A. W. Johnstone, of Danville, Ky.

DR. JOSEPH PRICE, of Philadelphia, contributed a paper on

PUS IN THE PELVIS, AND HOW TO DEAL WITH IT.

By pus in the pelvis he meant pus that has its *fons et origo* in the pelvic organs or their investment. The rarer causes of pus in the pelvis may be said to be: 1, Carious bone, as psoas abscess; 2, traumatism, sloughing, results of electricity, direct violence, etc.; 3, foreign bodies, as extra-uterine bones, etc. The general rule is that pus in the pelvis is always the result of diseased conditions of the uterine appendages, whether it occurs as the result of a ruptured extra-uterine pregnancy, a suppurating ovarian or dermoid cyst, or salpingitis caused by gonorrhœa, parturition, dirty instruments, electricity, or what not. In general, then, when the surgeon finds pus in the pelvis, he will find its origin in the uterine appendages. He had seen pus discharging from the rectum, from the bladder, the umbilicus, and from the vagina. He had seen psoas abscess, perforating appendicitis, idiopathic peritonitis, and typhoid fever, and found the seat of trouble in the tubes and ovaries. In all his experience he had never seen pus in the pelvis independent of disease of the appendages. To make the statement definite, he had seen more than once double pyo-salpinx and double ovarian abscess contained in a pus-pocket in the peritoneal cavity, composed of adherent intestines and inflammatory tissue—four abscess cavities contained within a fifth. Again, he had seen a single pus-tube with four distinct pockets in it. Pus can burrow through the cellular tissue and find vent, as before stated. How shall pus in pelvis be treated? The general principles of surgery for the treatment of pus in any other part of the body apply with equal force to the pelvis, namely—where pus is present evacuate it; and secondly, remove the cause of the suppurative process. It is equally unsurgical and unscientific to allow pus to remain in the pelvis as it would be to allow it to remain in the brain, in the mammary gland, or under the fasciæ in any part of the body. It is equally unsurgical to allow a suppurating tube or ovary to remain in the pelvis as it would be to allow a sequestrum of dead bone, or to allow a necrotic placenta or membranes to remain in the uterus. These principles do not admit of evasion. All sorts and kinds of treatment have been tried without avail. Every man of experience knows the futility of counter-irritation, local depletions, or a general systemic treatment in the vast majority of cases.

There are only three methods of treatment common to physicians to-day, namely—electricity, vaginal drainage, and abdominal section with the removal of the diseased parts, thorough irrigation of the peritoneal cavity, and drainage.

The first of these methods need scarcely be mentioned in cases where pus is already present. Electricity has no place in the treatment of pus in the pelvis. Vaginal drainage is a crude, inefficient method, and is not so safe as some would have us believe. In abdominal section we have the quickest, easiest, most exact, and therefore safest, mode of treatment for pus in the pelvis. A small incision, rapid enucleation of the offending tubes and ovaries, the breaking up and evacuating of the separate pus-pockets, the separation of adhesions, the thorough washing out of the peritoneal cavity by copious irrigations of warm distilled water, the placing of a glass drainage-tube in the most depending portion of the peritoneal cavity, and the careful closure of the abdominal incision, gives the patient the quickest relief, permanent cure, and very often snatches her from an impending death. Moreover, here we attain the most ideal treatment, for at no other point of the body can we enucleate completely an abscess with its containing walls and pyogenic membrane. However, we should always bear in mind that the province of the surgeon is, first, to save life, then to relieve suffering, rather than to perform ideal operations. Many patients dying with pus in the pelvis need but a feather's weight to depress the beam. In such cases the indications are to evacuate the pus, wash out the cavity, and wait until a future time to remove the offending cause.

Discussed by Drs. Hardon, Engelmann, Stone, Robinson, Hadra, and Potter.

DR. W. L. ROBINSON, of Danville, Va., read a paper on

GYNECOLOGY IN ITS RELATION TO OBSTETRICS,

in which he spoke of the cervix uteri in its pathological condition, predisposing to hemorrhage prior to labor, laceration, and septic absorption. He could find no explanation in medical literature of the cause of ulceration of the cervix, non-specific and non-malignant, causing hemorrhage in two cases which came under his observation within the last twelve months. He used the word "non-specific" because of the perfect health of the patients prior to the pregnancy and since delivery—his knowledge and intimate acquaintance for years with husband and wife. The first case was seven months advanced, and she was spending the summer in the mountains for the benefit of the health of one of her children. She found herself unwell after a week, and the flow was sufficient to soil the clothing and require napkins. A physician was called who gave ergot and opium, which controlled it in twenty-four hours. Two weeks subsequently the conditions repeated themselves, and relief was obtained by the same remedies. She returned to the city and was again annoyed by a like hemorrhage, which came on about 7 P.M. daily in spite of the efforts of the attending physician to control it, which continued until the sixth day, the patient having reached home. Dr. Robinson was called and made an examination with speculum. He found the os granular, denuded of its mucous coat, and upon gently opening the os with uterine dilators he discovered a small clot adherent to the ulcer which caused bleeding when removed. He applied carbolic acid to the ulcer, and dusted the os and vagina with boric acid. He continued treatment until the parts were in a healthy condition, and delivered the woman at full term without hemorrhage, tear, or any unusual sequelæ. No placenta prævia existed, and not one drop of blood escaped after the first application of carbolic acid until after delivery, and then everything was normal. The second case occurred a few weeks subsequent to the first, with history and result similar.

He has for several years made it a practice to examine his regular patients whenever a yellowish or dirty-white vaginal discharge exists, especially if the vulva is irritated, and almost invariably finds the os granulated, whether lacerated or not, and he persistently treats them until restored to a healthy condition, explaining fully to the patient the importance of such treatment.

DR. BEDFORD BROWN, of Alexandria, Va., corroborated the statements of Dr. Robinson by the citation of a case. The patient had a bilateral laceration of the cervix. She became bitterly hostile to sexual intercourse with her husband, and had an intense dislike of his company and presence. This preyed upon her mind to such

an extent that she became insane. He treated the case with applications of nitrate of silver, and the lacerations healed perfectly. After that all symptoms entirely disappeared. The patient regained her reason, her affection for her husband, and had lost the hostility to sexual intercourse which she had. She has since borne three children. He has examined the condition of the cervix after each birth, and the repair is perfect.

The paper was further discussed by DR. RICHARD DOUGLAS, of Nashville.

### EVENING SESSION.

The Association met in Broad Street Museum Hall, at 8 P.M. The Address of Welcome was delivered by HON. A. J. CALDWELL, the response to which was made by DR. J. M. MATHEWS, of Louisville. DR. HUNTER MCGUIRE then delivered the Presidential Address, which was scholarly, timely, and well received.

### SECOND DAY, WEDNESDAY, NOVEMBER 13TH—MORNING SESSION.

DR. GEORGE J. ENGELMANN, of St. Louis, read a paper entitled

#### MENSTRUATION AND PREGNANCY AFTER REMOVAL OF BOTH OVARIES.

The following are the conclusions drawn from the history and microscopical examination of Dr. Engelmann's cases, which are corroborated by numerous cases of oöphorectomy and double ovariotomy now observed, whose histories have been recorded for a sufficient length of time after the operation:

1. That the continuance of menstruation after removal of both ovaries is due to remnants of ovarian stroma left *in situ*. 2. That portions of the ovarian tissue, however small, which remain after the removal of the greater portion of the organ, whether or not the Fallopian tube be preserved, may retain their activity and continue the functions of the entire organ. 3. Even elongated pedicles may contain ovarian stroma in which the functional activity of the organ may be continued. 4. That remnants of ovarian stroma do not necessarily preserve their vitality and functional activity.

The deductions of practical value to the operator are even of greater importance, and they are these: *a*. For the successful performance of oöphorectomy it is requisite that every particle of ovarian stroma shall be removed, if the desired result is to be expected with certainty. *b*. If shrinkage of fibres, the limitation of hemorrhage, or cessation of annoying symptoms is to be accomplished with the greatest certainty, both ovaries must be completely removed, and not even a particle of ovarian tissue left *in situ*. *c*. In the performance of double oöphorectomy in women not yet beyond the climacteric, and not suffering from utero-ovarian reflexes, such healthy ovarian tissue as may exist should be spared in order that function activity may not be impaired.

DR. W. D. HAGGARD, of Nashville, said it is very rare for a woman to menstruate regularly after removal of both ovaries and both tubes. He believed that the hemorrhagic discharges from the uterus after oöphorectomy depended upon some other cause than that of menstruation. It may depend upon some trouble connected with the endometrium, as suggested by Dr. Engelmann, a polypoid growth, or a congested condition of the blood-vessels which supply the endometrium. In January last he removed both ovaries and both tubes in a woman, and it is barely possible bits of ovarian stroma were left behind, as three months later the patient continued to have hemorrhagic discharges which greatly annoyed her.

DR. A. W. JOHNSTONE, of Danville, Ky., held that the ovary has no more to do with menstruation than the clitoris has. To prove this he had left ovarian tissue behind, yet menstruation had ceased. Dr. Johnstone gave at length his reason for this theory.

DR. VIRGIL O. HARDON, of Atlanta, Ga., had operated on a patient, about eighteen months since, for a bleeding fibroid tumor, removing both ovaries, and in removing the second ovary he feared he had not removed all the ovarian tissue, as the precarious condition of the patient would not permit a continuance of the operation. The patient recovered from the operation, and has menstruated with unvarying regularity from that time to the present.

DR. RICHARD DOUGLAS, of Nashville, said that Battey's operation of itself does not control menstruation, whereas in Professor Tait's operation, which consisted in the removal of both ovaries and both tubes, the gynecologist embraces in his ligature the nerve which controls menstruation.

DR. A. V. L. BROCKAW, of St. Louis, warmly took exception to the remarks of Dr. Johnstone, who was inclined to give Tait the credit of first performing oöphorectomy. He said he admired Tait's skill as an operator, but as a man he did not, for with characteristic modesty he (Tait) adds his name to operations that do not rightfully belong to him; as, for instance, the flap-splitting operation.

DR. W. H. WATHEN, of Louisville, said gynecologists were more familiar with the laws that govern menstruation in many respects than they formerly were, but that we still require more scientific investigation, personal observation, and experience to convince us that any one cause controls menstruation.

DR. A. W. JOHNSTONE arose to defend an absent friend. The statement made by Dr. Brockaw, that Tait was the originator of the flap-splitting operation is not true. A full description of the method could be found in a recent issue of Mundé's journal. It is true, however, that Tait has used it without knowing it had been described some twenty years ago by a Dublin surgeon, but he has given him due credit for the operation.

The paper was further discussed by Drs. G. Frank Lydston, of Chicago, Johnstone, and discussion closed by Dr. Engelmann.

DR. JOHN D. S. DAVIS, of Birmingham, Ala., then read a paper on

#### AN EXPERIMENTAL STUDY OF INTESTINAL ANASTOMOSIS,

in which he reported thirty-two adhesive experiments on dogs, and seventy-nine successful anastomotic operations, by means of his approximation catgut mats and catgut plates, for the purpose of illustrating the advantages of denuding the coaptation serous surfaces, and the integrity and absorbability of his catgut mats and plates.

He reported two applications of anastomosis to man. The first, ileo-colostomy, for obstruction in the region of the ileo-cæcal valve, by means of catgut mats; the second, jejuno-jejunostomy, for multiple gunshot injuries of the jejunum, with resection and lateral approximation, by means of catgut plates.

His paper was replete with suggestive advantages of anastomosis over circular enterorrhaphy, based on experimental facts. His anastomotic devices consist of catgut mats and catgut plates—oval and horseshoe. The mats are made of catgut in the following manner: A large continuous four-rib catgut frame is held in an oblong shape by four artery forceps, while the frame is being interwoven into an oval mat, of the desired size, by means of a small catgut thread armed with a needle. The coaptation threads are fixed by passing a needle and thread between the two middle ribs, and so returned as to loop two or three of the small gut sutures used in weaving the ribs together. The plates are made of any size, by means of an ordinary pocket knife, from a large one-eighth inch thick dry compressed plate of the uncut gut tissue—made for the author by William Snowden, of Philadelphia. The coaptation threads are fixed by passing them through the plates by means of a needle, or better, by means of an awl, and knotted to fix them. The horseshoe plates are made from the oval plates by cutting out one end of each of the oval plates. They are used for closing, in a hinge manner, extensive gunshot wounds of the convexity of the bowel.

His paper closed with the following propositions: 1. Approximation catgut mats may be made of any size in less than an hour. 2. Approximation catgut plates may be made of any size in from ten to fifteen minutes. 3. Approximation catgut horse-shoe plates are very valuable in intestinal repair from gunshot injuries of the convexity of the bowel. 4. Approximation catgut mats and plates absorb away in from forty-eight to sixty hours in gastro-enterostomy, and in from seventy to eighty hours in operations below the stomach. 5. Anastomosis by means of approximation catgut mats or plates furnishes the best conditions for the healing of the visceral wound. 6. Anastomosis can be performed by means of catgut mats or plates, without division of bowel, in five minutes; and with division or resection in fifteen minutes, including a continuous outside safety-silk suture around the circumference of the mats or plates. 7. Denuding the peritoneum of endothelium at the seat of coaptation hastens the exudation of plastic lymph, the formation of adhesions, and the definite healing of the intestinal wound. 8. When coaptation serous surfaces have been denuded of their endothelial covering by mechanical scraping, plastic adhesions readily take place, and definite healing—by the formation of a net-work of new blood-vessels in the product of tissue proliferation from the coaptation serous surfaces—is initiated in eighteen hours.

Dr. A. V. L. Brockaw, of St. Louis, Mo., followed with a paper entitled

INTESTINAL ANASTOMOTIC OPERATIONS WITH SEGMENTED RUBBER RINGS, WITH SOME PRACTICAL SUGGESTIONS AS TO THEIR USE IN OTHER SURGICAL PROCEDURES.

For many months the author has been experimenting with segmented rubber rings in all the anastomotic operations, and such operations as gastrostomy, cholecystotomy, duodeno-cholecystotomy, jejuno-cholecystotomy, and circular enterorrhaphy. The rings used by him are rapidly made, during an operation if necessary. All that is required is some rubber tubing or a soft ordinary rubber catheter and some catgut. He prefers tubing one-sixteenth to one-eighth of an inch in diameter. A section of this, of sufficient length to make a ring of the desired aperture, is cut into four to eight segments. Passing heavy strands of catgut through the lumen of these pieces, the ends are tied tightly enough to bring the ends of all segments together, forming an oval ring. To the catgut strands are tied from four to six silk apposition threads twelve to fourteen inches long, and the attachment of needles to these threads renders the ring ready for use. Another method is to pass a heavy double strand of catgut continuously through the segments several times, approximate the ends of the segments, and push the ends of the catgut into the tubing. This ring will have a better surgical finish, and after the apposition threads are tied between the segments the ring will maintain its perfect form until the catgut is absorbed. The rings were passed as early as the fifth day in one of his experiments. In forming an anastomosis, after ordinary No. 6 darning-needles are attached to the apposition threads, compress the ring and pass it through the opening made in the lumen of the bowel, then pass the threads through the intestinal wall from within outward. Ascertaining that the ring rests well in place, proceed to the second in the same manner; appose, and after scarification of the marginal serous surfaces, as suggested by Senn, tie the apposition threads. When possible, it is well to utilize omental grafts, which add to the security. With two such rings circular enterorrhaphy may be performed, the rings corresponding in size to the lumen of the bowel, care being taken that they are not so large as to press too much upon the delicate mucosa or to overstretch the bowel, as a local gangrene might then follow. Introducing a ring at each end of the gut at the point of section, the threads are passed through the wall less than one-third of an inch from the divided margins. The distal end of the gut is invaginated and the proximal gut pushed into the distal, bringing the serous surfaces in contact. The threads are then tied and a few Lembert sutures added, the entire operation requiring less than ten minutes. In one-half of his experiments with this operation the result was excellent. Of the fourteen dogs operated on by this method, in seven the results were all that could be desired; marked stenosis was found in several cases, and in all a ridge at the seat of the operation.

In a recent paper the essayist mentioned

A NEW PROCEDURE FOR CLOSING LARGE WOUNDS OF THE INTESTINE,

especially gunshot, whereby ordinary suturing stenosis would result. This method applies to wounds of the surface of the intestine; those of the mesenteric portion usually require resection. By this simple method wounds the size of a half-dollar may be closed in less than five minutes. The wound being trimmed and enlarged with scissors, a ring two and a half inches in diameter, made of eight segments of tubing, with six apposition threads, two on each side, so arranged that when the apposition threads are tied the ring is held bent evenly on itself. Such a ring is introduced into the bowel, the end apposition threads passed, then the lateral, using a single catgut suture in drawing the wound margins together at the point of flexure, in order to prevent eversion. A few Lembert sutures complete the operation. If two wounds are close together in the same loop, a lateral anastomosis might be formed, if possible. With more than two wounds close together, excision and lateral anastomosis will require less time than circular enterorrhaphy or the sewing up of several wounds. Other conditions where the single ring may be used are perforating ulcers, fistulas, etc. The great advantage of the segmented rubber rings over other devices used is the simplicity of their construction and the rapidity with which any number may be made. The large aperture of segmented rings makes it possible to perform ileo-colostomy by the following method, which the author believes is original: The ileum being divided a short distance from the cæcum, the divided end of the distal bowel is invaginated into itself, and secured by a continuous suture through the serous and muscular coats. Above the proximal end a clamp is placed, and a ring adjusted to the lumen; a slit is then made in the convex surface of the ascending colon and a ring introduced. The bleeding checked, the proximal end of the divided ileum is inserted into this slit, the threads tied, and Lembert sutures added. This operation may be quickly performed, and is indicated in such cases as irreducible intussusception of the ileum into the cæcum, and malignant diseases of the colon.

Appended is a series of operations with the results: Gastrostomy, 2 experiments, 2 recoveries; gastro-jejunostomy, 3 cases, 2 recoveries, 1 death from peritonitis;[1] jejuno-ileostomy, 1 case, result perfect; ileo-ileostomy, 2 cases, 1 death, due to perforative peritonitis; ileo-colostomy, 2 cases, 2 perfect results; colo-colostomy, 3 cases, 1 death; ileo-rectostomy, 2 cases, perfect results; circular enterorrhaphy, 14 cases, 7 deaths; duodeno-cholecystotomy, 3 cases, 2 deaths from peritonitis;[2] partial duodenectomy, 2 cases, 1 perfect result; partial jejunectomy, 2 cases, 2 perfect results; partial ileoectomy, 4 cases, 1 death; partial colectomy, 2 cases, 2 perfect results. *Summary:* Intestinal anastomotic operations, 14 cases, 3 deaths; circular enterorrhaphy, 14 cases, 2 deaths.

The single ring, formed of eight segments of tubing, was used in closing wounds varying in size from a quarter to half a dollar in 9 cases, with 1 death. The clamp devised by him and used in the operations is made of No. 12 copper wire covered with unperforated rubber tubing of small size.

Discussion postponed till afternoon.

(To be continued.)

[1] Dog tore one suture eight days after operation.

[2] This operation is difficult to perform on a dog for anatomical reasons.

# Correspondence.

## CONCERNING EXAMINATIONS FOR MEDICAL OFFICERS OF THE NAVY.

To the Editor of The Medical Record.

SIR: In the last number of THE RECORD, under the caption of "Vacancies Hard to Fill," there is an article which may cause some misunderstanding among possible candidates as to the character of the examination for admission to the Naval Medical Corps.

I refer to that part of the article in which the writer states that it is almost useless for any candidate who cannot show his A.B., as well as his M.D. degree, to present himself before this Board for examination; or words to that effect.

The naval branch of the Government service has never required candidates for appointment as assistant surgeon to show even their M.D. degree, being satisfied with its own examination as the test of professional acquirements; and, as a matter of fact, I assure you that of the last fifteen candidates found qualified by this Board, three only possessed degrees from literary colleges or institutions, while twelve were without any degree whatever other than doctor of medicine.

Very truly yours,

E. S. BOGERT,
*Med. Inspector U. S. Navy,*
*Pres. Exam. Board.*

NAVAL MEDICAL EXAMINATION BOARD,
U. S. NAVAL HOSPITAL,
BROOKLYN, November 19, 1889.

## THE ACTING ASSISTANT SURGEONS AND THE CONTRACT SYSTEM.

To the Editor of The Medical Record.

SIR: Your editorial in THE RECORD of November 2d attracted my attention. You have headed it with "The Hard Lot of the Acting Assistant Surgeon," and you present his case as one of severe hardship in a pecuniary point of view. In fact, it is the burden of your remarks. I fully agree with both the views of the "Association of Acting Assistant Surgeons U. S. A.," and yourself. They are not paid enough for their services. Yet there is no compulsion for giving their services for the recompense awarded. The fact is that a man, professional or otherwise, must have a living; if in the medical profession he must take his chances against competition with his fellows, or he must hire himself out for what he can get. The Government, like any individual, should get its work done as cheaply as possible. And evidently it has found that it can get all the service of the kind for the amount it proposes to pay I presume there are over twenty applicants for any vacancy or necessity that may arise. An experience as a contract or Acting Assistant Surgeon United States Army, a surgeon to a railroad company, and a manufacturing association, has taught me one fact, viz., that if I was not satisfied with the payment received I should decline to perform the service required; but those fifty Acting Assistant Surgeons decline to serve the Government for the price stipulated. There are another fifty ready to take their places. It is immaterial what is required of them. This they know beforehand, and if after making a trial they can, to use a vulgar expression, "get out," the fault is not in the contracting party of the first part. Certain duties are required for which so much money will be paid. The party of the second part is under no obligation to accept unless he is satisfied that he cannot do better with his property, viz., his accomplishments as a medical man. The remedy is easy—let him not make such a contract, and force the party of the first part to offer and give more for the service required. The fact is, there are too many doctors for the work to be done, and hence competition reduces the compensation. Government knows this as well as individuals, and finds it can get all the work required for the price offered. The contract surgeon has (if he chooses) an opportunity for outside work which adds to his wages, and oftentimes he can resign, and, by virtue of his previous position, enter upon a good practice in the neighborhood where he has been located.

From long observation the average doctor does not exceed $1,500 per annum, and were I to place it at $1,000 I would not be far out of the way. There is no obligation to become a "contract surgeon," and if after a trial of a month the wages are not satisfactory for the work performed, the remedy is easy. The same principle applies to all public offices: if the recompense is not sufficient or satisfactory, resignation is easy, and the vacancies can be readily filled. Whether private, public, or governmental, I am satisfied I can furnish the Government all the contract surgeons qualified for the duties required, to fill all the vacancies that may occur for insufficient compensation, and be glad for the opportunity.

Yours respectfully,

WILLIAM BRODIE, M.D.

DETROIT, MICH.

To the Editor of The Medical Record.

SIR: I have read with a great deal of interest the article which appeared in THE MEDICAL RECORD of November 2d entitled "The Hard Lot of the Acting Assistant Surgeon." I think it must have surprised the readers to know the humiliating position that educated, reputable physicians, who are over twenty eight years of age, are placed in, if they desire to enter the Medical Department of the United States Army. The only office open to a physician who is over twenty-eight years old, in the Medical Department of the United States Army, is that of an Acting Assistant Surgeon, United States Army, and the officer is paid less than a second lieutenant—the lowest commissioned officer of the army. It is almost incredible to believe that, if the Acting Assistant Surgeon is wounded and disabled in the service, while in discharge of his duty as a medical officer, and obtains a leave of absence for a short period on account of inability to perform his duty, that he loses his pay for the time he is absent, and that he is liable to be dismissed without trial or cause at the whim of his commanding officer, and that he has not the advantage given him of the civil service laws, which prevent employees of the Government from being removed without good and sufficient cause. This is certainly an injustice and discrimination against medical men who like army life, and are anxious to enter the service after they have passed the age of twenty eight years. Some of the Acting Assistant Surgeons of the United States Army have been in the service since the war, and are now too old or so accustomed to military life that they have no desire to commence the practice of medicine. I feel as confident as you do that the Acting Assistant Surgeon has the sympathy of the Surgeon-General of the United States Army, and also the medical staff, in his efforts to better his position and fix his status. The medical staff of the army is inadequately paid, and after the question of the Acting Assistant Surgeon, which is the most apparent injustice, is disposed of, the attention of the medical profession of the country might be called to it. From the *World Almanac* of 1889, page 175, I notice that the salary of the Surgeon-General of the United States Army is stated to be $4,500, while the salaries of other brigadier-generals are stated to be $5,500. The latter salary would be very meagre for the accomplished chief of the Medical Department of the United States Army. The petition of the Acting Assistant Surgeons of the United States Army appears to me to be very modest, and I cannot see how any lover of justice can object to it, and I believe as you do, that they ask for too little. During the late war of the Rebellion the Acting Assistant Surgeons of the United States Army wore the uniform and insignia of rank of first lieutenant, and performed the duties of Assistant Surgeons and Surgeons, and in several in-

stances had charge of United States General Hospitals when the pay was very small and the responsibility very great. The number of medical men who served in this capacity, and who patriotically gave their services to their country in its hour of need during the late war of the Rebellion was 5,532, and I understand that there will be an effort made at the coming Congress to commission and muster them in from the date of entry into the service, and muster them out or discharge them like commissioned officers at the date of the honorable termination of their service.

THE MEDICAL RECORD deserves commendation for calling the attention of the medical profession to the position their medical brethren—the Acting Assistant Surgeons—are placed in, and I think it is our duty, and I sincerely hope we will be able, to aid them in their efforts to obtain a living salary and the standing in the army that they modestly seek. The Acting Assistant Surgeon of the United States Army who is now in the service is so situated that he can be of little service in bettering his position. He can only make a statement that will call the attention of his medical brethren to the position he is placed in, to obtain their sympathy and support, which I feel confident will be cheerfully given. The article in THE MEDICAL RECORD on the "Hard Lot of the Acting Assistant Surgeon," I think, has voiced the opinion of the medical profession on their petition, and I take the liberty of informing you that it gave me great pleasure to read the editorial which called attention to the position that this class of very deserving medical officers are placed in.

Very respectfully yours,

JOHN T. NAGLE, M.D.

47 EAST TWENTY-FIRST STREET, NEW YORK.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 18 to November 23, 1889.*

LORING, LEONARD Y., Major and Surgeon. By direction of the Secretary of War the extension of leave of absence on Surgeon's certificate of disability granted in S. O. 241, October 16, 1889, from this office, is still further extended one month on Surgeon's certificate of disability. Par. 3, S. O. 268, Headquarters of the Army, A. G. O., November 16, 1889.

MOSELEY, EDWARD B., Captain and Assistant Surgeon. Relieved from duty at Whipple Barracks, Ariz., to take effect upon the expiration of his present leave of absence, and will report in person to the commanding officer, Fort Clark, Tex., for duty at that station, reporting by letter to the commanding general, Department of Texas. Par. 4, S. O. 268, A. G. O., November 16, 1889.

FISHER, WALTER W. R., Captain and Assistant Surgeon. Relieved from duty at the Presidio of San Francisco, Cal., and will report in person to the commanding officer, Fort Assiniboin, Mont., for duty at that station, reporting by letter to the commanding general, Department of Dakota. Par. 4, S. O. 268, Headquarters of the Army, A. G. O., November 16, 1889.

EBERT, RUDOLPH G., Captain and Assistant Surgeon. The leave of absence on Surgeon's certificate of disability granted in S. O. 109, May 11, 1889, from this office, is extended six months on Surgeon's certificate of disability. Par. 13, S. O. 270, Headquarters of the Army, A. G. O, November 19, 1889.

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*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 23, 1889.*

RUSH, W. H., Passed Assistant Surgeon. Ordered to U. S. S. Saratoga.

URIC, J. F., Assistant Surgeon. Detached from the Coast Survey Steamer Gedney and ordered to the U. S. S. New Hampshire.

BRYANT, P. H., Assistant Surgeon. Detached from the Norfolk Hospital and ordered to the Coast Survey Steamer Gedney.

SMITH, GEORGE T., Assistant Surgeon. Detached from the Army and Navy Hospital, Hot Springs, Ark., and ordered to the Naval Hospital, Norfolk, Va.

STONE, E. P., Assistant Surgeon. After examination for promotion, await orders at Boston, Mass.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 23, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 32 | 10 |
| Scarlet fever | 43 | 5 |
| Cerebro-spinal meningitis | 1 | 1 |
| Measles | 35 | 6 |
| Diphtheria | 87 | 14 |
| Small-pox | 0 | 0 |
| Variola | 3 | 0 |
| Cholera | 0 | 0 |

CIRCULAR FOR THE INFORMATION OF PERSONS DESIRING TO ENTER THE MEDICAL CORPS OF THE U. S. NAVY.—The following circular, from the Honorable Secretary of the United States Navy, is published for the information of all concerned:

A candidate for examination and appointment in the Medical Corps of the Navy must be between twenty-one and twenty-six years of age, and must apply to the Honorable Secretary of the Navy for permission to appear before the Naval Medical Examining Board.

The application must be in the handwriting of the applicant, stating age and place of birth, also the place and State of which he is a permanent resident; and must be accompanied by letters or certificates from persons of repute, testifying, from personal knowledge, to his good habits and moral character, and that he is a citizen of the United States.

*Form of Application.*

———,

———, 1889.

TO THE HONORABLE SECRETARY OF THE NAVY,
*Navy Department, Washington, D. C.:*

SIR: I request permission to be examined for an appointment as Assistant Surgeon in the United States Navy.

I was born at — , and was —— years of age on the —— day of ——, 18—, and am a citizen of the United States, residing in ——, county of ——, in the State of ——.

I enclose herewith certificates as to moral character, habits, and citizenship.

Very respectfully,

——— ———

If, in reply to the above, the candidate receive a permit, he will notify the President of the Board of the fact, and request him to appoint a time for his examination.

Candidates will be expected to present to the Board testimonials of education and professional fitness.

The Board is required, under oath, to report on the physical, mental, moral, and professional qualifications of the candidate; so that the examinations are necessarily rigid and comprehensive, though simple and practical, and not beyond the attainments of any well-educated physician.

A successful candidate, upon the completion of his examination, will be notified by the President of the Board that he has been found qualified.

An applicant found "not qualified" may be allowed a second examination after one year, but not a third.

No allowance will be made for the expenses of persons undergoing examination, which, if uninterrupted, is usually completed within a week.

Appointments will be made as vacancies occur, and in the order of merit reported by the Board, but a qualified candidate, not appointed within the year, must be re-examined.

The officers of the Medical Staff of the Navy are as follows: Medical Directors, Medical Inspectors, Surgeons, Passed Assistant Surgeons, and Assistant Surgeons.

Vacancies in these grades (by death, or retirement at the age of sixty-two years) are filled in the order of seniority, and for each step of promotion a physical and professional examination is required by law.

The pay of an Assistant Surgeon in the Navy is $1,000 per annum "on leave or waiting orders," $1,400 "on shore duty," $1,700 "at sea," and, when at sea, one ration at thirty cents per diem in addition.

Eight cents a mile is the allowance when travelling under orders.

*Order of Examination:*—1. Physical. 2. Written. 3. Oral. 4. Clinical. 5. Practical.

*The Physical Examination* will be very thorough, and the candidate will be required to certify, under oath, that he is free from any mental, physical, or constitutional defects, hereditary taint, or disability of any kind that would be liable to interfere with the efficient performance of duty.

*Written Examination.*—The candidate will be required to address a letter to the Board of Examiners, stating concisely—

1. The date and place of his birth; the school, institution, or college at which he received his general education; the several branches studied, including his knowledge of general literature, and of the ancient and modern languages; the exact title of the medical school or schools at which he received instruction, and, *if an Alumnus*, the date of his graduation; the name and place of residence of his preceptor, and the time when he commenced the study of medicine; also, the title of the text-books studied or read on Chemistry, Anatomy, Physiology, Histology. Materia Medica, Pharmacy, Therapeutics, Theory and Practice of Medicine, Principles and Practice of Surgery, Minor Surgery or Mechanical Therapeutics, Medical Jurisprudence, Toxicology, Obstetrics, Hygiene, Biology, and Physics.

2. The opportunities he has had of engaging in the practice of medicine, surgery, and obstetrics, or of receiving clinical instruction; or whether he has or has not been a resident physician or interne in a civil or military hospital.

3. The number of subjects or parts of subjects he has dissected; what opportunity he has had to become familiar with minor surgery and bandaging, chemical and pharmaceutical manipulations, and the physical properties of drugs.

The candidate will append to this letter his name in full, post-office address, and his local address at the date of the examination.

*A Thesis or Short Essay* must next be written (without reference to notes or books) upon some professional or scientific subject indicated by the Board.

Written answers will then be required to twelve or more questions, propounded by the Board, on the following subjects:

Anatomy, Histology, Physiology, Surgery, Theory and Practice of Medicine, Obstetrics, Materia Medica, Chemistry, Hygiene, Medical Jurisprudence, Toxicology, and Physics.

*Oral Examination.*—The candidate will be examined orally upon his literary and scientific acquirements, including general history, natural science, and English literature, and professionally upon Anatomy (general, special, and surgical), Histology, Physiology, Theory and Practice of Medicine, Principles and Practice of Surgery, Chemistry, Legal Medicine, Toxicology, Materia Medica, Therapeutics, Pharmacy, Obstetrics and Diseases of Women and Children, Hygiene, Microscopy, and Physics.

Candidates possessing special knowledge of the higher Mathematics, Astronomy, Geology, Botany, Zoology, Literature, Art, and Ancient and Modern Languages, will be given full credit for their proficiency.

*The Clinical Examination of Patients* will be made by the candidate at a Naval Hospital, and will include the use of the Microscope, Thermometer, Laryngoscope, Ophthalmoscope, and other aids to physical diagnosis; after which he will be required to submit a written clinical report on one or more medical or surgical cases.

*The Practical Examination* will comprise surgical operation on the cadaver, the application of splints, bandages, and surgical dressings, the use of the microscope (for clinical purposes, and the recognition of pathological or other specimens), and chemical and pharmaceutical manipulations.

A candidate may withdraw at any period of the examination, with the consent of the Board, and may at a future time present himself for re-examination.

The Board may conclude the examination—written, oral, or practical—at any time, and may deviate from this general plan in such manner as it may deem best to insure the interests of the naval service.

Dr. Morse K. Taylor died at his home in San Antonio, Tex., on October 20th, after an illness of about two weeks. Dr. Taylor was born in Watertown, N. Y., but was taken to Michigan by his parents while still a child. He served in one of the Michigan regiments during the Mexican war, and at the close of that war began the study of medicine at Ann Arbor, where he graduated in the second class that left the medical department. After practising for a while in Illinois, he entered the Union Army as surgeon, and served in that capacity during the entire Civil War. He then practised in Iowa, but soon re entered the army, serving in the medical corps until retired on account of age. He then made his home in San Antonio, living with his son, Dr. F. M. Taylor. He had made a special study for some years of the climate of Texas, and at the time of his death had nearly completed a work on the climatology of this State, which is said by those who have seen portions of the manuscript to be of remarkable scope and detail. Dr. Taylor also wrote the article on the climate of Texas in the seventh volume of Wood's "Reference Handbook." His death was due to prostatic disease.

A Five Years' Course of Study for English Medical Students.—The Committee of Management of the Royal Colleges of Physicians and Surgeons of England have recommended an extension of the period of professional study to five years for candidates of qualification by the Conjoint Examining Board in England, and their recommendation has been accepted by the Council of the Royal College of Surgeons; while the Fellows of the Royal College of Physicians have referred the matter to the Council for further consideration.

The Hygiene of Russian Workshops.—At the Congress of Hygiene, held recently in Paris, Dr. Kacheva, a female physician, drew a most astounding picture of the horrors of the sleeping accommodation provided for workmen in Russian factories, which she characterized as exceeding those of steerage passengers in old emigrant ships.

A Medical Senator.—Dr. Francisco Alonso Rubio, some time physician to the Queen of Spain, and the leading obstetrician and gynecologist of the Peninsula, has recently been named a life senator by the Spanish Government. The appointment has given great satisfaction to the medical profession in Spain.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

MEDICAL LIBRARY OF THE BOSTON CITY HOSPITAL.

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## Original Lectures.

### ON VITAL AND MEDICAL STATISTICS.[1]

BY JOHN S. BILLINGS, M.D.,
UNITED STATES ARMY.

LECTURE II.

THE term "expectation of life" is used by different writers in different senses, and hence has often given rise to confusion and misunderstanding. It should be used only in the sense of the mean after-lifetime, that is, the average number of years which persons at any given age, in a given place, may expect to live. In a stationary population, where there is no migration, and where the births are exactly equal in number to the deaths, the expectation of life at any age would be found by dividing the sum of the number of years which the whole population lived after that age by the number actually living at that age.

*Table showing Expectation of Life.*

| | | Ages. | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | 0 | 5 | 10 | 15 | 25 | 40 | 60 |
| American Life Insurance Companies. | Males .. | .... | .... | 49.9 | 46.6 | 39.5 | 28.5 | 14.5 |
| Massachusetts, 1883-87 | Males .. | 39.7 | 52.7 | 49.3 | 45.1 | 38.2 | 28.2 | 15.3 |
| Boston, 1883-87 | Persons. | 33.3 | 47.2 | 47.5 | 44.7 | 37.1 | 28.5 | 16.7 |
| Providence, 1883-87 | Persons. | 40.8 | 51.1 | 48.3 | 44.2 | 37.5 | 27.7 | 15.0 |
| New York, 1879-81 | Males .. | 33.3 | 48.0 | 44.9 | 40.6 | 33 2 | 23.9 | 13.0 |
| Baltimore, 1880, colored | Males .. | 21.0 | 41.8 | 46.0 | 36.8 | 31.0 | 21 7 | 11.3 |
| Society of Friends, Philadelphia | Persons. | 43.7 | 51.8 | 48.8 | 44.6 | 37.5 | 28.5 | 15.6 |
| Society of Friends, England | Males .. | 45.3 | 53.8 | 50.5 | 46.4 | 39 9 | 29.2 | 14.4 |
| Benedictine Monks, Paris | ..... | .... | ... | ... | .... | 14.6 | 24.0 | 11.7 |
| English Life Insurance | ..... | .... | 50.6 | 45.6 | 40.6 | 34.0 | 24.5 | 12.6 |
| Dublin, 1841 | Males .. | 23.8 | 38.5 | 17.2 | 33.4 | 27.0 | 19.8 | 11.0 |
| Berlin | Males .. | 17.2 | 44.5 | 43.1 | 39.5 | 32.0 | 22.0 | 10.0 |

The term "expectation of life" is often confused with the "probable duration of life," which is the age at which a certain number of new-born children will be reduced one-half; so that for any one of these children it is an equal chance as to whether it will die before or after that age. The difference between the probable duration of life and the expectation of life may be understood from the following example: Suppose that of 100 children born, 30 live one year, 20 live five years, 30 live forty years, and 20 live sixty years. Then the probable duration of life is five years, because at the end of five years just one-half of these children will be dead, so that at the beginning it is an even chance for any one child as to whether it will die before or after the age of five years; but the expectation of life of any one of these children is 25.3 years, because these 100 children will in all live 25,300 years of life. In like manner, if ten of these children were to die at the end of every five years, the probable duration of life would be 25 years, and the expectation of life would be 27.5.

Another phrase sometimes used in vital statistics is "specific intensity of life." This is the quotient of the dividend of the number of persons living at any age by the number dying at that age, that is, $\frac{Px}{Dx}$, being the reverse of the ordinary mortality ratio.

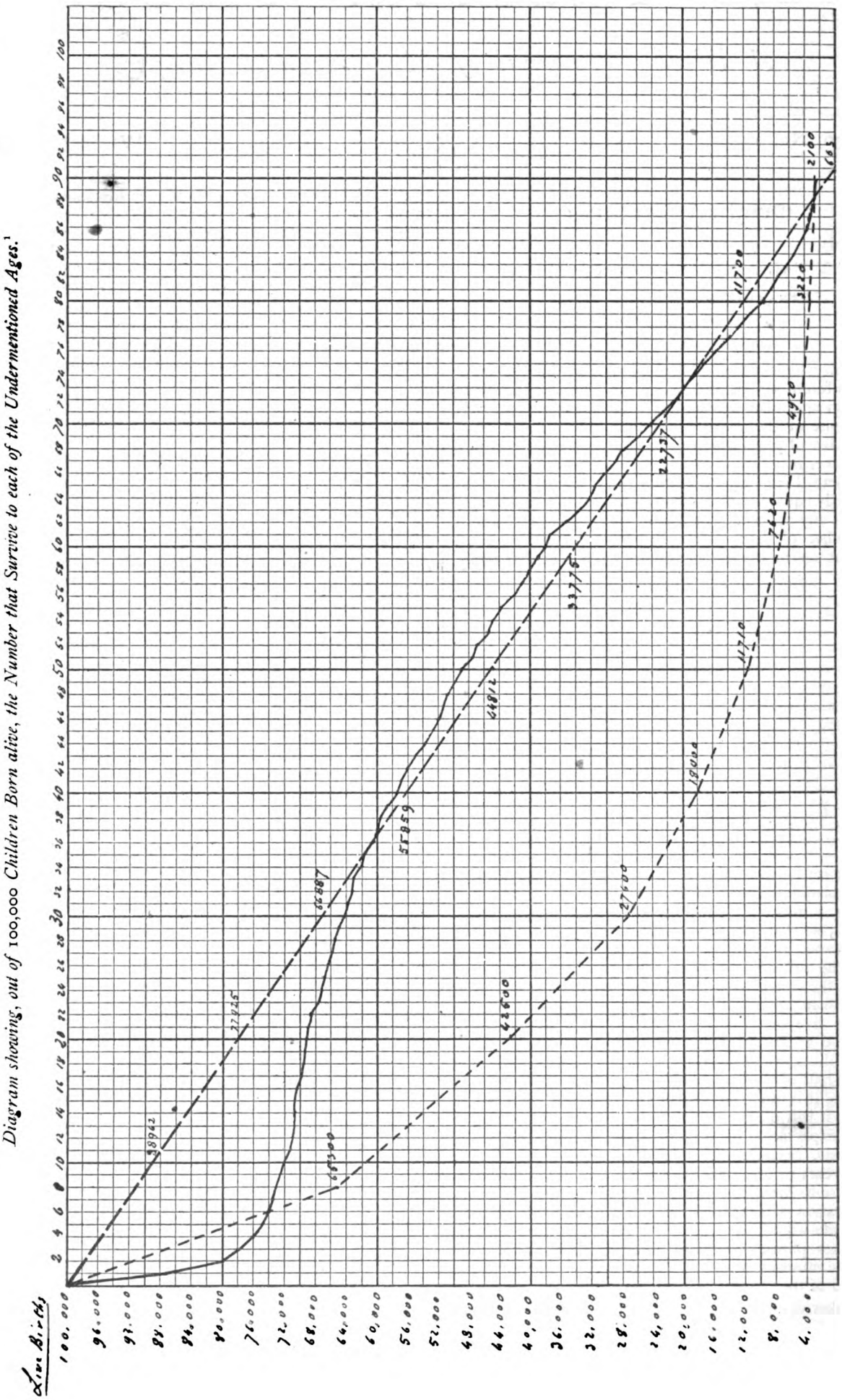
The chief source of error in an approximate life-table constructed directly from the census figures and a registration of deaths, without correction or adjustment, is due to the fact that there is a very considerable error in the number given of the living population in the first six or seven years of life. Usually the census figures show that the number of children two years old is greater than the number one year old, and that the number four years old is greater than the number two years old, owing to a tendency to erroneously report a child at these ages as being older than it is. If we undertake to adjust or correct these figures so as to truly represent the number living at each year, we usually have to make some assumptions as to the law governing the mortality, or as to what is sometimes called the law of life. This expression, the law of life, refers to the hypothesis that variations in mortality at successive ages take place in a regular succession which may be geometrically represented by a curve, and that therefore, if we know the mortality at certain ages in a given community, we can, if we know this curve, and if the number of observations were sufficient, deduce the mortality at other ages. Numerous formulas have been proposed for this purpose, from that of De Moivre in 1727, which is $Y = 86 - x$, $x$ being the age, and Y the corresponding number of the living, to the latest and most generally accepted formula of Gompertz, as modified by Mr. Makeham. This last is based on the assumption that a person's power of resisting death decreases as his years increase, so that at the end of infinitely small periods of time he loses infinitely small portions of his remaining power to resist destruction, death being considered as the consequence of two generally existing causes, the one a progressive, necessary deterioration, the other chance. If, for instance, there were a number of diseases to which young and old were equally liable and which were equally destructive at any age, the number of deaths among the young and the old by such diseases would evidently be in the proportion of the number of the young to that of the old. If there were no other causes of death but these diseases, the number of living and dying would decrease in a geometrical progression as the age increases. But if the liability to death is constantly increasing in a given ratio as the man grows older, then the number of the living will decrease in a greater ratio than a geometrical progression would indicate.

The diagram before you shows the diminution of vital force with advancing age as shown by De Moivre's hypothesis, by the geometrical progression formula, and by the English life-table.

This line of human life, which in some respects is not unlike the line in the palm of the human hand which the ancient teachers of chiroscopy also called the line of life, is that of the healthy and normal individual. Many persons do not at any time possess the amount of vital force which it represents; many infants at birth have but the capacity for a few hours or a few days of existence. Some men begin to grow old at forty; the atheromatous degeneration invades their arteries, the heart becomes fatty, and at fifty they are in extreme old age as regards the processes of retrograde metamorphosis, and the ability to resist death. Calculations and corrections based on such formulæ as these give interesting results, and are useful to life-insurance work, but they are unnecessary to the purposes of the sanitary statistician. Even the fundamental hypothesis upon which Gompertz' law is based, that the proportion of deaths at a given age is constant, is always untrue for any given age, as the prevalence of infectious and contagious diseases of various kinds, and

[1] The Cartwright Lectures, delivered before the Alumni Association of the College of Physicians of New York, November, 1889.

*Diagram showing, out of* 100,000 *Children Born alive, the Number that Survive to each of the Undermentioned Ages.*[1]




[1] See A. Newsholme, The Elements of Vital Statistics, p. 237. London, 1889. —— Dr. Ogle's line (English life table), 1871–80; — — — Dr. Moivre's line, May 1, 1886; - - - - Geometrical progression line.

of various lethality, varies with different years, and for this reason it is desirable to have the records of deaths for a considerable period of time—at least three years, and, better, ten to twenty years, in order to correct these variations.

It is impossible to calculate a life-table for the United States as a whole, since we have no accurate information as to the total number of deaths occurring in any given period of time in the United States, and still less as to the number of deaths occurring at each group of ages. But even if such table could be prepared, it would be of very little interest or use, since the conditions of the various sections of the country as to climate, occupations, prevailing diseases, character of inhabitants, etc., are so widely diverse that the average or mean would scarcely be applicable anywhere. The most useful life-tables for sanitary purposes are those which relate to certain circumscribed localities, such as a single city, or even a single ward of a city; but for scientific and medical purposes, the most useful are those which relate to particular classes of people, particular occupations, etc. There is a special difficulty in preparing an accurate life-table for a city, due to the effect of migration into and out of the city, from and to the surrounding country, which disturbs very much the rates of death at different ages. The mortality in a great city is almost always reported as less than that which the actually existing causes of death and disease tend to produce, because domestic servants, shop-girls, and others, who have come from the country, go back to their rural homes when their health begins to fail after a year or two of city life, and there die. This is especially the case in regard to deaths from consumption and diseases of that class. The groups of ages which are thus specially affected are those between fifteen and twenty-five years, and therefore the mortality at this group of ages in the large cities, as calculated from the number of deaths, is too small to properly represent the causes of death acting on the population at those ages. On the other hand, the mortality at the same ages in the rural districts near the city will be correspondingly unduly increased.

The data necessary for the construction of life-tables are comparatively rarely available for the purposes of the sanitarian. Hence, while admitting that these furnish the only true measure of public health, registrars of vital statistics and sanitarians have sought for other standards for such measurement, the data for which could be more readily obtained and more easily applied. Especially has the search been made for some means of measuring sanitary conditions and progress from the data furnished by deaths alone without reference to population. One of the most common of these is the use of the period of infancy from 0 to 5 years, by comparing the number of deaths at this period with the total number of deaths. It is very certain that the period of infancy gives the most sensitive test of sanitary conditions, but the comparison must be made, not with the total number of deaths at all ages, but with the number of the living population furnishing such deaths.

In Europe it is more common to confine the calculation to children under one year of age, and these are much more valuable there than they would be in this country because they have there a much more complete registration of births, and therefore the relation between the number of infants born and dying within the first year of life can be ascertained with an exactness which is quite out of the question in this country.

Another method, which we can only use for a census year, is the use of the ratio which exists between the total number of births during the year and the number dying during the year out of this number of births. This is not the same as taking the total number of those dying under one year of age. For example, in the city of Brooklyn, during the last census year, there were 8,805 births, and of these 1,408 died—leaving, on the date of the census, 7,397 living children under one year of age, putting aside the effects of migration; but the total number of deaths of white male children under one year of age in Brooklyn was 2,059—hence 159.9 per 1,000 of those born within the year died within the year, while the deaths of children under one year were 278.4 per 1,000 living at the end of the year, with a still higher rate for the year.

The test of sanitary condition which is most generally employed in this country is the proportion of the number of deaths which occur in children under five years of age to the whole number of deaths reported. This does fairly well in comparing the rates of the same city, in which it may be presumed that the general ratio of age-distribution is nearly uniform at different times, but it is a very fallacious method of comparing rates of different cities or localities. For example, during the last census year the ratio of deaths under five years per 1,000 of total deaths was in Alabama 475.9 for males—in California, 250.0; but in Alabama the proportion of male children under five years to the total population is 17.5 per cent., while in California it is only 9.1, or but little over half the Alabama ratio, and hence the true rate is actually higher in California than it is in Alabama, although the figures would indicate the reverse.

Much the same may be said of comparison of deaths at a given age-group to total number of deaths, which is apt to give very misleading conclusions. For example, suppose, in a given city, the total number of deaths of children under five years of age were thirty per cent. of the total deaths, while in a given class of people in the same city they were only ten per cent. of the total deaths; it would be by no means safe to infer that this special class was in a better sanitary condition, because among the poorer classes the proportion of children is always relatively large, which implies a large population exposed to these special diseases, and consequently a larger number of deaths under five years of age, without reference to the sanitary condition.

Another test which has been proposed is that of the mean age at death, which is the quotient of the sum of the ages of different individuals at death, divided by the total number of deaths. This is only useful in comparing the conditions of two populations when the age and sex constitutions of these populations is the same. It is out of the question to apply the test to different occupations; as, for example, to compare the mean age at death of major-generals with that of second lieutenants. The chief use of this test is in its application to different causes of death, but even for this purpose the death-rate in relation to population is much better.

A considerable part of the errors to which one is liable in comparing the mean age of different occupations at death may be avoided by excluding from the computation all deaths of children under five years of age.

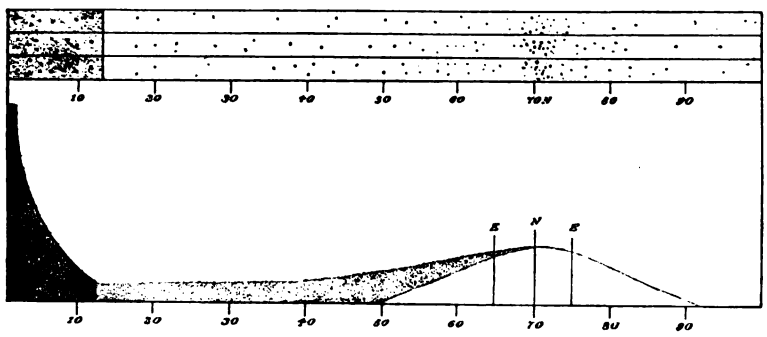
Although the expectation of life, or mean after-lifetime, is the standard of comparison almost universally accepted by statisticians, it is, in some respects, not a very satisfactory one, since it is often misunderstood by the public, which is apt to use the word "mean" in the sense of usual or ordinary, that which occurs most frequently. But the ordinary lifetime, or, as Bertillon calls it, the *vie normale*,[1] is a very different matter, as will be seen from the diagram on next page.

This indicates that after the perils of childhood are passed the greatest number of deaths cluster about the age-period of seventy years, and the popular phrase here would be that it was a premature death which occurred in a man under sixty years of age.

The great majority of the mortality statistics prior to the present century are necessarily incorrect and unreliable, because they are based, for the most part, on the data of deaths alone. The deaths can only be taken as a measure of probable duration of life for any community when the births and deaths are equal and there is no migration, a state of matters which must very rarely happen and be of very brief existence.

[1] Bertillon, M. Jacques: Sur la Vie moyenne et la Vie normale, Bull. de la Soc. d'Anthropologie, Paris, 1879, 3e Sér., Pl. op. p. 470.

Among the many expedients which used to be employed for estimating population was that of multiplying the number of living in which one death was supposed to occur, by the number of deaths. That is to say, by guessing at a factor which could only be ascertained by comparing the annual deaths with the number living. Take, for example, the estimates of the population in London made by Graunt in 1662 on the basis of one death occurring out of every 32 living, which made the population to be 403,000. In 1683 Petty, taking the mortality to be 1 to 30 persons living, made the population to be 669,930.



One peculiar thing about this method is, that it is liable to make the population seem the largest at those periods when it was in reality the smallest; for when the number of deaths was unusually large by reason of an epidemic, which would actually lessen the number living, it would show an apparent increase in the population for the same period.

It may, perhaps, be asked why it is, if the nature of the data which are required to make mortality statistics reliable and satisfactory is so well known, that more of them are not provided by the municipal and State Officers charged with the registration of vital statistics. For example, New York City has a very perfect system of registration of deaths, which is in competent hands and is well executed. Why, then, has New York City published no separate mortality report since 1883, and why, in the reports which it has published, does it not give the data with minuteness of grouping so that we might know the number of deaths at each age, of each sex, and of each race and occupation in each ward from each cause of death, instead of giving, as it gave in its last report, the number of deaths from each of certain causes of death for each of a few groups of ages, and separately for each sex, and for natives of the United States, natives of foreign countries, and colored; to which is added a statement of the deaths from zymotic diseases in each ward?

In order to understand the answer to this, it is necessary to have a clear conception of the difference in cost of tabulation and publication according to the mode of grouping of the data. If, for example, the deaths are given by twenty groups of ages and by sex and by color for each of the 24 wards, and for the city as a whole. it will require 49 columns to do this. If we make the distinction for, say, 100 different causes of death, allowing fifty lines to the page horizontally, and twenty columns vertically, giving 1,000 places per page, we should get all this information for the city on four pages; but if we wish to show the number of cases of death from each cause at each group of ages, of each sex and each color in each ward, we shall have to have 2,000 columns, which will make about 200 pages. If it be desired to estimate the influence of seasons in connection with all these things, we must have a similar table for each month, or 2,400 pages large octavo.

Again, let us suppose that we wish to have the data fully presented in order to estimate the influence of occupation upon health. We will only ask for details of one hundred occupations in males. But we should like to know the number of deaths in each of these occupations for each of, say, ten groups of ages, in each of at least five races, in the married and single, in each of twelve months, for each of the twenty-four wards, for each of, say, 100 different causes of death, giving 288,000,000 possible places, making 288,000 pages large octavo.

It is, of course, out of the question to present the data in any such detail as this, and it is therefore necessary to make a selection of combinations which will indicate the most interesting relations of the several points under discussion.

It is, however, often very difficult, and even impossible, to tell precisely what combinations it will be necessary to make to get at the probable explanation of an especially high or low death-rate in a given group; and hence we sometimes have to make a very considerable number of tentative combinations and tabulations, from which we may select only a few as really throwing light on the matter, and therefore as worth publication.

When we have to tabulate data in such a way that the individual items are to be distributed through a thousand columns or more, and each of these to be summed up for different localities, a vast amount of clerical labor is required. For distributing in 1,000 spaces the various items assigned in each death-certificate, if it be done by the old-fashioned system of tallying on a large sheet, an expert clerk will not be able to tally off more than 1,000 records of death per day; so that for, say, 30,000 deaths, which is less than the average number of annual deaths in New York City for the last ten years, it would require the labor of a clerk 30 days to produce a single page table, about one per cent. of what is needed.

By the use of cards or slips, tallying machines, adding machines, and sorting boxes of various kinds, this labor may be much reduced. One of the latest methods of doing this is by the use of cards of a uniform size, in which holes punched in certain parts of the card correspond to the various divisions of locality, time of death, sex, age, occupation, cause of death, marital condition, etc. These cards may then be passed through a machine which registers on a series of dials such combinations of the data as the dials may be adjusted for, by means of electrical connections established between a metal plate below and a series of metal rods above, wherever there is a hole in the card.

Death-rates, even when derived from complete and accurate data and compiled in the most satisfactory manner in the form of life-tables, necessarily give only an imperfect view of the prevalence of disease in a community, or of the relative amount of disability among the people, requiring extra labor by the productive class due to the recurrence of sickness. Many forms of disease which render life more or less of a burden, and some of which totally disable the individual from earning his subsistence, seldom or never appear in the registers as a cause of death; while even of those diseases which are reported as causes of a considerable proportion of deaths, we can rarely at present indicate any definite or certain relation between the number of cases of the disease and the number of deaths reported. For example, it is well known to all practising physicians that the mortality varies greatly in different epidemics of such diseases as scarlet fever, measles, small-pox, whooping-cough, yellow fever, etc., the variations appearing to depend principally upon the particular conditions of the environment as to temperature, moisture, winds, density of the population, etc., at the time of the outbreak, and also upon particular conditions of the specific virus or micro-organisms causing diseases of this kind.

Take, for example, the spread of yellow fever in Texas and along the Gulf Coast during the year 1867. Here the specific cause of this disease appears to have entered the United States by two distinct routes, one coming from Vera Cruz, Mexico, and the other coming from the usual

source, Havana. At that time the United States had a comparatively large number of troops along the Southern border of the country, and hence we have a series of returns showing not merely the number of deaths, but also the number of cases of sickness from this disease occurring in a given population.

Now, in those places where the disease was of Mexican origin the cases were more fatal than those of Cuban origin, "two out of every five cases of the former dying, while the mortality of the latter was only two out of seven. The ratio of deaths was 400 per 1,000 cases for the first of these groups, 284 per 1,000 for the second." [1]

For the great majority of diseases it is not possible to obtain statistics as to their prevalence among a general population. The only sources to which we can look for information of this kind are the records of the Army and Navy, of the police force in certain cities, of the employés of railroads, and of the members of certain societies having insurance against sickness. The records of the Army and Navy are especially valuable in this point of view, but they relate only to males of certain groups of ages and of a carefully selected class of population.

In the last United States Census an attempt was made to obtain on the schedules of the living population the number of those who on the first day of June, 1880, were so sick or disabled as to be unable to pursue their ordinary occupations. This was the first attempt of the kind which has been made in this country, but similar attempts were made in two censuses in Ireland, in a census of the Australian Colonies, and in a census of Hungary.

The first examination of the United States schedules seemed to show that the returns of the sick were too imperfect and too inaccurate to permit of drawing any conclusions from them. But subsequently it turned out that they were really more complete than had been supposed, and a sufficient number were compiled for different parts of the country to obtain a fair sample of the general results. This compilation showed that for the total population over fifteen years of age the number found sick out of every 1,000 living varied from 7.17 to 22.7 for males, and from 8.1 to 17 5 for females, or about 1⅛ per cent of males and 1¼ per cent of females. These do not include the blind, deaf and dumb, insane and idiots, and it is probable that the figures do represent very fairly the different proportions of sickness occurring in males and females, and in certain groups of ages at the time that the census was taken, which, it must be remembered, was at a period when there is probably the least amount of sickness and disability among adults.

From the results of data derived from mutual benefit societies in England it has been estimated that for every case of death in a community there are two persons constantly sick; that is to say, there is an average of two years sickness to each death, or that if the annual death-rate is 18 per 1,000 the average number constantly sick is about 36 per 1,000.[2]

By the census reports the proportion of sick to 1,000 of population of different ages was as follows:

| Age. | Males. | Females. |
|---|---|---|
| 15 to 25 | 6.9 | 6.8 |
| 25 to 35 | 8.6 | 9.7 |
| 35 to 45 | 12.2 | 11.5 |
| 45 to 55 | 16.8 | 14.4 |
| 55 to 65 | 25.5 | 20 4 |
| 65 and over | 44.5 | 35 3 |

[1] War Department, Surgeon-General's Office, Washington, 1886: Circular No. 1., page xviii.

[2] Mr. T. R. Edwards (London Lancet, 1835-36, i., p. 855), from the study of a series of returns from friendly assurance societies, claimed that, for large numbers of people, there is a constant ratio of sickness peculiar to each age, and that the duration of each case of sickness at any age is in proportion to the mortality at that age. His theory is that the mortality at any year of age exceeds that of the preceding year by 2.999 per cent., or that the mortality during any decennial interval of age exceeds that of the preceding decennial by one-third part; or that the mortality rate doubles in 23½ years. According to his theory, if a physician loses by death double the proportion of patients at the age of forty-three that he does at the age of twenty, the effect of his remedies in each case is the same.

This corresponds, in a general way, to the conclusions of Mr. A. G. Finlayson relative to the amount of sickness in members of friendly societies, printed in 1854.[1]

He found that, taking the whole mass of male members of friendly societies, from the age of 15 to that of 85, about five years of sickness occurs to each man during this 70 years; but during the period of labor, from the commencement of the sixteenth year of age to the close of the sixty-sixth, there are in this 51 years but 78 weeks of sickness, or about one and a half week per annum; and the sickness occurring from 42 to 66 is almost double that occurring in the first half from 15 to 41. Hence he concludes that the sickness of the first 25 years of working life is almost exactly one-half of that of the second 25 years. In the class devoted to heavy labor the sickness is almost a year more, or in the proportion of 11 to 9 as compared with the sickness undergone in the class engaged in light labor.

It is also to be observed that during the early years of life, say from 21 to 41, the number of persons withdrawing, or excluded from such societies, is very large, being nearly five times the number of deaths. As the age of the members increases the departures become fewer, because it becomes more of an object to remain connected with the society, since the rate of annual payments is the same for all ages, while the proportion of sickness steadily increases, as we have seen, with advancing age.

Several attempts have been made to induce physicians to keep a record of all the cases they treat, but with very little result. In 1857 the Metropolitan Association of Health Officers in London carried out a systematic registration of all cases of sickness which received attention at the public expense, as in hospitals, dispensaries, almshouses, etc. About one-half of the hospitals and dispensaries in the district contributed information, but the enterprise broke down before the end of the second year, and while results gave some interesting indications for the time as to the prevalence and progress of certain forms of epidemic disease, the records have very little statistical value, as they have no definite relation to the numbers of the population furnishing the cases of sickness.

It is very improbable that anything like complete returns of sickness will ever be obtained for any large body of the civil population. Such registration will always be confined to infectious and spreading diseases; in other words, those which are known or supposed to be preventable. In order to make a registration of this kind of any great practical value it must be continuous and compulsory. The plan of endeavoring to get the medical men of a locality to voluntarily contribute this information, even when accompanied by the offer of the payment of a fee, has produced partial and incomplete results, which become more and more incomplete as time goes on, and the first enthusiasm in favor of the new plan dies away.

The various systems of compulsory notification which have been tried are, first, to require the medical attendant only to furnish the returns to the Health Office; second, to require the householder, or head of the family, to make such returns; third, to require both the doctor and the householder to make such returns; and, fourth, to require the doctor to certify to the householder, and the latter to notify the health authorities.

The Infectious Disease Notification Bill, passed by the English Parliament in 1889, is the latest attempt to solve this difficult question.

It provides that where an inmate of any building used for habitation is suffering from a disease to which the act applies, then, unless such building is a hospital in which persons suffering from infectious disease are received, the following provisions shall have effect, that is to say:

"The head of the family to which such inmate (in this act referred to as the patient) belongs, and in his default the nearest relatives of the patient present in the build-

[1] See Insurance Cyclopedia, vol. v., p. 83.

ing or being in attendance on the patient, and in default of such relatives every person in charge of or in attendance on the patient, and in default of any such person the occupier of the building shall, as soon as he becomes aware that the patient is suffering from an infectious disease to which this act applies, send notice thereof to the medical officer of health of the district.

"Every medical practitioner attending on, or called on to visit the patient shall forthwith, on becoming aware that the patient is suffering from an infectious disease to which this act applies, send to the medical officer of health for the district a certificate stating the name of the patient, the situation of the building, the name of the head of the family or other person who appears to him to be primarily liable to give the notice under this act to the medical officer, and the infectious disease from which, in the opinion of such medical practitioner, the patient is suffering.

"Every person required by this section to give a notice or certificate who fails to give the same, shall be liable on summary conviction in manner provided by the Summary Jurisdiction Acts to a fine not exceeding *forty shillings*.

"The local authority shall gratuitously supply forms of certificate to any medical practitioner residing or practising in their district who applies for the same, and shall pay to every medical practitioner for each certificate duly sent by him in accordance with this act a fee of *two shillings and sixpence* if the case occurs in his private practice, and of *one shilling* if the case occurs in his practice as medical officer of any public body or institution."

On the part of some members of the medical profession, both in Great Britain and in this country, strong objections are urged to compulsory notification of disease, and especially to that form which requires the doctor to furnish such notification direct to the sanitary authorities. It is urged that such notification is a violation of professional secrecy; that it leads to concealment of cases of such disease and the refraining from calling in a medical attendant, and that it tends to throw the treatment of such cases into the hands of a lower class of practitioners, who are willing to run the risks of violation of the law, or, even, to make false returns for the sake of securing an increased practice. There is, however, little difficulty in keeping the information furnished strictly confidential, provided the health-officer is a man of tact and discretion, and provided, also, that the press does not insist upon being too inquisitive with regard to matters of this kind.

Any system of compulsory notification, however, which has to be continuously successful, involves two things. First, that the health-officer shall not be in any way engaged in, or connected with, private practice, so as to do away with all reluctance on the part of general practitioners reporting their private cases.

The second is that, to obtain any benefit from notification, special hospital accommodations for such forms of diseases as are reported must be provided by the community, and there must be a power of compulsory removal of patients to such hospitals in certain cases.

Undoubtedly, valuable statistical data might be obtained by the simple notification alone; but the desire to obtain statistical information will never be accepted as a sufficient ground for legislation requiring compulsory notification.

We hear very much in recent years of the proportion of deaths from zymotic diseases as a test of the salubrity or sanitary condition of a place; but as there is no general agreement as to what is and what is not a zymotic disease, and as the term rests on a theory of causation of disease which is now definitely abandoned, it should no longer be made use of. It is much better to select the mortality from certain forms of disease, and specify these, in order that we may know exactly what we are talking about and be sure that the matters compared between two localities are the same. English health-officers often use the term "seven principal zymotic diseases," by which they mean small-pox, measles, scarlet fever, diphtheria, whooping-cough, typhus fever, and enteric fever. If this is the selection it is not a good one, for it omits the diarrhœal diseases. Forty years ago, near the commencement of the speculations of Dr. Farr and Mr. Simon as to the causation of disease, nearly all of the contagious diseases were grouped together as zymotic diseases, and were supposed to be more or less connected with filth. At present we know that the cleanliness of the surroundings has little or nothing to do with the prevalence of small-pox, measles, scarlet fever, or whooping-cough; so that these, which are typical zymotic diseases, are of very little interest in connection with the question as to local causes of disease in a place, connected with uncleanliness, and to be remedied by sanitary effort.

Their relative prevalence, and the mortality due to them, is of interest in a totally different connection, and their separation involves an entirely different field of sanitary work. Such diseases as phthisis, diphtheria, and the various forms of diarrhœal disease, including cholera infantum or the summer diarrhœa of children, of England, are of especial interest as regards the field of local sanitary work in relation to sewerage, drainage, and cleanliness.

The influence of habitation upon death-rates, and on the prevalence of certain forms of disease, is indicated by statistics given by Dr. Korosi for the city of Budapest, where the deaths are reported with the following classification, viz.:

1. Persons in a habitation where, at most, two persons dwell in one room.
2. Persons dwelling where from two to five persons dwell in one room.
3. Where there are from five to ten in a room.
4. Where there are more than ten in a room.

The first class includes the rich and well to do. The others present increasing grades of overcrowding. Of each 10,000 deaths reported, 1,941 belong to the first, 5,759 to the second, 2,167 to the third, and 133 to the fourth; and these ratios may be used to compare with the proportions of deaths from any disease or group of diseases as occurring in the different classes.

Comparisons thus made indicate that contagious diseases, with the exception of scarlatina and typhus, are more frequent and more fatal in the crowded houses, and that the same is true of congenital debility and diarrhœa, while tuberculosis and pneumonia do not seem to be especially influenced by this cause. (?!). As the figures of death in these categories are not comparable with those of the living population, the results have not much value.[1]

Suppose, now, that we are studying the death-rates of a city for a series of years in order to determine whether its sanitary condition is, upon the whole, improving; whether work which has been done in the way of introducing sewerage, or improved water-supply, or special precautions in dealing with contagious diseases, have had an evident good effect, and have produced results which are, on the whole, satisfactory in proportion to their cost. It is very evident that we must have something more than the mere gross death-rates for the whole population in order to form an intelligent opinion on these points. A gross death-rate may, it is true, give a correct answer to the question as to whether the sanitary condition is improving, but we can never be sure of the correctness of this answer until we have made detailed comparisons of the mortality by age and sex, and of that due to certain great classes of disease.

What has been the influence of modern civilization upon the average duration of human life? upon rate of increase of population? upon the average health and vitality of the races which it has affected? The present population of the world is between one thousand five hundred and one thousand six hundred millions, of which there are in Europe over three hundred and fifty millions, and of

[1] Korosi: Influence des habitations sur les causes des décès, etc. Paris, 1877.

European stock in other countries one hundred millions; in all, say, four hundred and fifty millions, as against one hundred and fifty millions in 1788.[1]

Evidently the birth- and death-rates now prevailing in Europe and the United States cannot have long continued, for if we suppose a population to double itself only once in a century, a million of people, living one thousand two hundred years ago, would have developed into a population of over four thousand millions by this time.

What, then, is the difference between the expectation of life in New York at the present day and that in European cities one, three, five, ten, or twenty centuries ago? This question has been asked in various shapes many times, and many attempts have been made to answer it; the general conclusion being that there has been a very great increase in the average longevity of man in civilized countries, not only within the last thousand years, but within the last century. Notwithstanding, it must be confessed that the statistical records bearing on this point are very incomplete, vague, and unsatisfactory, and that it is only for the last forty or fifty years that we can speak with anything like scientific precision as to the amount of progress made.

So far as what is termed potential longevity, that is to say, the maximum duration of life possible in an individual of the race, is concerned, there is no evidence that this has changed for at least two thousand years, being for man generally taken as one hundred years. You will remember the scriptural declaration that the years of a man are threescore years and ten, and though by reason of strength they be fourscore years, yet is their strength labor and sorrow; notwithstanding, there are sufficient records to prove that even in those days the potential longevity of man was as great as it is at present.

But when we come to the average longevity and expectation of life at birth, there is sufficient evidence to indicate that it has increased; but whether this is due to the preservation of more infant-lives for a few years, although they may still die before the productive period is reached, or to an increase of the number of those who live into and share the working period of life, is still uncertain, for this question can only be settled by comparative life-tables, and I have already explained that we have no reliable life-tables that are much over fifty years old.

I have already referred to the average duration of life among the better class of Roman citizens as fixed by Ulpian, being equal to thirty years. Among the oldest data which we possess, from which we can attempt to compare death-rates of past centuries with those of the present, are the records of Geneva in Switzerland, which date from 1551. The average annual death-rate per 1,000 was as follows:

| | |
|---|---|
| From 1551 to 1600 | 40 |
| From 1601 to 1650 | 37 |
| From 1651 to 1700 | 35 |
| From 1701 to 1750 | 33 |
| From 1751 to 1800 | 29 |

From 1801 to 1813 the mean duration of life was thirty-six years and six months.

From this, the probable duration of life is given as follows:[2]

| Periods. | Probable duration of life. Years. | Months. | Days. | Proportionate increase. |
|---|---|---|---|---|
| End of the sixteenth century | 8 | 7 | 26 | 100 |
| End of the seventeenth century | 13 | 3 | 16 | 153 |
| 1701 to 1750 | 27 | 9 | 13 | 321 |
| 1751 to 1800 | 31 | 3 | 5 | 361 |
| 1801 to 1813 | 40 | 8 | 0 | 470 |
| 1814 to 1833 | 45 | 0 | 29 | 521 |

The figures are not sufficiently full or accurate to justify the conclusion that the probable duration of life in this place has been increased five times in three centuries, but they do indicate a very marked and progressive increase.

[1] See Giffen, Jubilee Volume of Statistics, 1885, p. 99.
[2] Mallet: Annales d'Hygiène, 1837, vol. xvii., p. 5.

In the sixteenth and seventeenth centuries Geneva had a small population, frequently exposed to fatal pestilence, and produced a comparatively large number of infants, of whom but a very small proportion reached the age of puberty.

In the early part of the eighteenth century the average mortality of all European countries, taking towns and villages together, is estimated by Süssmilch as 1 in 36, or 27.778 per 1,000.

The most important contributions to our knowledge of the increase in the duration of life in recent years is contained in a paper on the decline in the English death-rate, by Noel Humphreys, published in the *Journal of the Statistical Society*, in 1883; and in a report by Dr. William Ogle, in a supplement to the Forty-fifth Annual Report of the Registrar-General of England, published in 1885.

The conclusions, as based upon English life-tables, comparing periods from 1838 to 1854, and from 1871 to 1880, are as follows:

The mean after-lifetime of a male at birth was for the first period 35.91 years, for the second, 41.35, showing an average gain of nearly a year and a half. The mean after-lifetime continues longer in the second period than in the first for each year of life until the nineteenth. At the close of the nineteenth year the expectation of life was exactly the same in each period, viz., 40.17 years. From that time onward the after-lifetime is shorter in the recent period than in the older one; that is to say, the individual male in England lives on an average a shorter time after he is nineteen years old than he did forty years ago; but the number of males out of equal numbers at the start who survive to live these shorter lives is very much greater than it was formerly, so that the aggregate life of the whole is considerably increased. The gain is greater in females than in males. Thus in the first period the expectation of life in females was 41.85, while in the second period it was 44.62, being a gain of 2.77 years on an average for each female. The after-lifetime continues longer in the new period down to the completion of the forty fifth year, when the expectation of life becomes the same, viz., 24.06.

Taking a million males and a million females, the following table shows the additional years gained at each age-group, for each sex, during the recent period.

| Age periods. | Males. | Females. |
|---|---|---|
| 0 to 15 | 255,340 | 288,226 |
| 15 to 25 | 281,872 | 339,933 |
| 25 to 35 | 344,906 | 453,221 |
| 35 to 45 | 310,746 | 499,471 |
| 45 to 55 | 211,040 | 474,009 |
| 55 to 65 | 86,920 | 385,257 |
| 65 to 75 | 10,464 | 239,617 |
| 75 to 85 | 27,770 | 89,568 |
| 85 and upward | 13,451 | 8,282 |
| Total years gained | 1,439,139 | 2,777,584 |

This table shows plainly how erroneous is the conclusion sometimes drawn that, because the death-rates have fallen only in the earlier age-periods, while they have risen in the later age-periods, the aggregate gain to the community from the changes is confined to the unproductive years of life. We may fairly take the period which intervenes between twenty-five and sixty-five years of age to be the most valuable part of life, and of the aggregate years saved, 66 per cent. in the case of males and 65 per cent. in the case of females are lived in this period.

The earliest attempt to give vital statistics for the United States is probably a paper by Edward Wigglesworth, published in the "Memoirs of the American Academy of Arts and Sciences," 1793, vol. ii., page 131, entitled "A Table showing the Probability of the Duration, the Decrement, and the Expectation of Life, in the States of Massachusetts and New Hampshire, formed from Sixty-two Bills of Mortality on the Files of the American Academy of Arts and Sciences in the Year 1789." The whole number of deaths reported on these bills was 4,893.

He had no data of population, but the reports indicated that the births in the locality sending the bills were twice as many as the deaths. As his calculations are based solely on the deaths alone at certain ages, the conclusions are evidently entirely unreliable; but, such as they are, they are as follows:

The expectation of life at birth was 28.15 years; at five years, 40.87; at ten, 39.23; at fifteen, 36.16; at twenty, 34.21.

By another calculation he finds that the expectation at birth was 35.47, and at five years of age 48.46.

Another paper is by J. E. Worcester, printed in the "Memoirs of the American Academy of Arts and Sciences," Philadelphia, 1833, vol. i., New Series, page 1, and entitled "Remarks on Longevity and the Expectation of Life in the United States, relating more particularly to the State of New Hampshire." Taking the bills of mortality of thirty-two townships in New Hampshire for an average length of time of twenty-one years, he found that the death-rate was 1 in 83, or 12.04 in 1,000. He wisely remarks that the ratio is so small as to excite suspicion concerning the accuracy of the bills.

With this may be contrasted the following table showing the expectation of life in Massachusetts as computed from the deaths occurring in the five years 1883–87, compared with the living population in the middle of this period as deduced from the Massachusetts census of 1885.

*Expectation of Life.*

| Ages. | Massachusetts, 1883-87. | | | City of Baltimore, 1880. | | | | | | New York City, 1879-81. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | White and Colored. | | | White. | | | Colored. | | | White and Colored. | | |
| | Persons. | Male. | Female. | Persons. | Male. | Female. | Persons. | Male. | Female. | Persons. | Male. | Female. |
| 0 | 40.87 | 39.72 | 42.03 | 38.18 | 36.49 | 39.86 | 23.26 | 21.00 | 25.51 | 30.90 | 29 04 | 32.77 |
| 1 | 49.77 | 49.43 | 50.12 | 46.04 | 44.73 | 47.36 | 35 32 | 32.20 | 38.44 | 39.66 | 38.22 | 41.09 |
| 2 | 52.67 | 52.36 | 52.98 | 49.80 | 48.42 | 51.18 | 41.91 | 39.25 | 44.57 | 44.04 | 42.59 | 45.49 |
| 3 | 53.02 | 52.73 | 53.31 | 51.05 | 49.77 | 52.33 | 43.66 | 41.19 | 46.13 | 45 39 | 43.93 | 46.85 |
| 4 | 52.96 | 52.70 | 53 23 | 51.58 | 50.27 | 52.90 | 44.07 | 41.84 | 46 30 | 46 08 | 44.62 | 47.55 |
| 5 | 52.70 | 52.43 | 52 97 | 51.72 | 50.46 | 52.99 | 44.32 | 41.84 | 46.79 | 46.28 | 44.85 | 47.71 |
| 10 | 49.61 | 49.27 | 49.95 | 49.66 | 48.50 | 50.83 | 42.40 | 40.06 | 44.75 | 43 84 | 42.40 | 45.27 |
| 15 | 45.53 | 45.15 | 45.94 | 45.46 | 44.35 | 46.58 | 39.42 | 36.84 | 42.00 | 39.70 | 38.24 | 41.15 |
| 20 | 41.93 | 41.41 | 42.45 | 41.50 | 40.36 | 42.65 | 36 62 | 33.76 | 39.47 | 35.84 | 34.41 | 37.28 |
| 25 | 38.76 | 38.24 | 39.28 | 38.06 | 36.86 | 39.27 | 33.68 | 31.02 | 36 34 | 32.56 | 31.18 | 33.95 |
| 30 | 35.54 | 34.94 | 36.15 | 34.74 | 33.45 | 36.04 | 30.64 | 27.76 | 33.53 | 29.64 | 28.24 | 31.04 |
| 35 | 32.33 | 31.65 | 33.02 | 31.42 | 30.04 | 32.81 | 27.62 | 24.51 | 30.72 | 26.71 | 25.29 | 28.13 |
| 40 | 28.98 | 28.26 | 29.71 | 28.05 | 26.70 | 29 40 | 24.68 | 21.71 | 27.64 | 23.89 | 22.54 | 25.24 |
| 45 | 25.64 | 24.88 | 26.41 | 24.67 | 23.35 | 25.99 | 21.74 | 18.91 | 24.56 | 21.08 | 19.80 | 22.35 |
| 50 | 22.29 | 21.55 | 23.04 | 21.27 | 19.96 | 22.58 | 18.02 | 16.26 | 21.58 | 18.26 | 17.16 | 19.36 |
| 55 | 18.95 | 18.23 | 19.68 | 17.86 | 16.56 | 19.16 | 16 10 | 13.62 | 18.59 | 15.44 | 14.51 | 16.36 |
| 60 | 15.98 | 15.32 | 16.64 | 15.01 | 14.06 | 15 96 | 13.42 | 11.29 | 15.54 | 12.98 | 12.20 | 13.76 |
| 65 | 13.01 | 12.42 | 13.60 | 12.17 | 11.57 | 12.77 | 10.72 | 8.96 | 12.48 | 10.52 | 9.89 | 11.15 |
| 70 | 10 74 | 10.27 | 11.21 | 10.24 | 10.09 | 10.40 | 8.87 | 7.80 | 9.94 | 8.90 | 8.47 | 9.34 |
| 75 | 8 47 | 8.12 | 8.83 | 8.32 | 8.61 | 8.03 | 7 02 | 6.65 | 7.39 | 7.29 | 7.05 | 7.53 |
| 80 | 7.24 | 7.03 | 7.45 | 7.14 | 7.39 | 6.38 | 6.90 | 6.26 | 6.49 | 6.38 | 6.22 | 6.54 |
| 85 | 6.00 | 5 94 | 6.07 | 5.98 | 6.17 | 5.78 | 5.72 | 5.86 | 5.59 | 5.46 | 5.39 | 5.54 |

One of the most frequent fallacies in the use of statistical data is to mistake an effect or a coincidence for a cause. For example, it is common to speak of rapid growth in population of a locality or country as if it were in itself a good and desirable thing, a cause of prosperity and well-being, and when this growth lessens or ceases we find some philosophers trying to devise ways and means to increase it. This, for example, has been the case in France for a number of years, and various plans have been proposed for increasing the birth-rate and diminishing the death-rate, in order to produce prosperity and strength in the country. The fact is that rapid increase of population in a country is an indication that things are going on well there, that there is a demand for labor, and that men find that they can increase their comfort by going, or staying, there; but it may, or may not, be a cause of prosperity at a given time, and sometimes it may cause hardship, weakness, and suffering.

You are all, no doubt, familiar with what is known as the Malthusian theory, which is, essentially, that population is limited by the means of subsistence available, that population increases in a geometrical proportion, while the means of subsistence do not increase in a faster ratio than arithmetical progression; that, therefore, the growth of population is checked by want of means of subsistence, and, therefore, that the increase of mankind may be considered as the chief source of misery, which misery, together with moral restraint to a limited extent, and vice, check the superior growth of population, keeping it at a level with the means of subsistence.

If this doctrine be applied to the lower animals or to an extremely savage and ignorant set of men, it is very nearly correct; for, in this case, the term "means of subsistence" applies almost exclusively to the natural produce of the earth. As soon, however, as man applies his intelligence to the increase of the means of subsistence by improvements in agriculture, by manufactures, etc., it is no longer true that the means of subsistence increase in an arithmetical proportion. They may increase, and, for the last fifty years have, throughout civilized regions of the world, actually increased in a ratio more rapid than geometrical proportion and more rapid than the increase of population; and it is, therefore, substantially true that "the character of every race of men is the real limit to its numbers in the world, if allowance be made for accidents of position and time."[1]

The uneducated and unskilled laboring classes who are without capital, when gathered together in large masses, tend constantly to illustrate the theory of Malthus by increasing faster than they can provide means of subsistence for themselves and their families.

But this tendency is opposed by the advance in knowledge, increase in energy, and improvement in inventions in the educated classes, who, although it may be said that they are acting only from selfish interests, are, nevertheless, led by those interests to expand the fields of agriculture, manufactures, and commerce, and, thus, to both increase the means of subsistence and to lessen the price thereof.

Under favorable conditions a population is capable of doubling its number every twenty-five years. In the United States, between the years 1790 and 1860 the population doubled itself about once in 23½ years. But a proportion of this increase was due to immigration.

Whether in the future a systematic attempt to maintain an equilibrium between subsistence and population will become a practical problem of national policy is, at present, a purely theoretical speculation, for it is very easy to show, as has been done by Mr. Atkinson, that the means of subsistence at present at our command can easily be quadrupled, as the increase of the population occurs to both require and produce such increase.

Note.—In estimating the progress of the population of the United States for the next century, if we assume a rate of 33.3 per cent. of increase in ten years, which is a

[1] Farr: Vital Statistics, London, 1885, p. 15.

little less than the mean rate for the last century, we find that the probable population in 1990 will be 1,206,562,248, giving a density of population of 399 to the square mile, approaching the present density of China, which is 420, or of Belgium, which is 434 per square mile.

NOTE.—Maria Mitchell, in a recent number of the *Century*, speaking of an interview with Sir John Herschel, says that, one morning at the breakfast-table, Herschel put the following question: Suppose that since the time of Cheops, three thousand years ago, man had only died from natural decay at about ninety years of age, and that the population doubled itself every thirty years; starting with a single pair at the time above referred to, would the present surface of the earth afford standing room to the entire progeny if closely packed? The replies to this conundrum were various; one saying that they would occupy a layer three feet deep, another a layer fifty feet high, and so on, extending the guesses as he said, "More, more," to the distance of the moon, to the sun, and finally to the planet Neptune, when his reply was that they would have piled up upon the surface of the earth to a distance equal to one hundred times the distance of the earth from the planet Neptune.

One of the most interesting and important questions in vital statistics in this country is that relating to the relative increase in the white and colored population in the Southern States, and the influence which has been, and will be, exerted upon this by the abolition of slavery. On the one hand, it is claimed that the large increase in the colored population between 1870 and 1880 indicates that in fifty or, at most, a hundred years more it will greatly predominate.[1] On the other, it is affirmed that the greater increase of the colored population is apparent rather than real.

The following table will aid in forming an opinion on this point; but we must wait until we know the results of the next census before coming to any conclusion.

*Table showing Percentage of Increase of White and Colorea Population in Certain Districts.*

| District. | 1840–50. | | 1850–60. | | 1860–70. | | 1870–80. | | 1850–80. | | 1860–80. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | White. | Colored. | White. | Colored. | White. | Colored. | White. | Colored. | White. | Colored. | White. | Colored. |
| I. | 20.92 | 9.47 | 18.72 | 7.24 | 11.35 | 4.16 | 26.54 | 27.57 | 67.28 | 42.42 | 40.90 | 32.88 |
| II. | 35.73 | 27.16 | 33.15 | 14.50 | 29.49 | 3.91 | 24.77 | 23.74 | 115.60 | 47 23 | 61.54 | 28.58 |
| III. | 23.30 | 29.17 | 17.08 | 18.43 | 3.98 | 10.85 | 30.19 | 34.56 | 36.92 | 72.66 | 35.37 | 49.17 |
| IV. | .... | .... | 67.90 | 59.32 | 14.79 | 9.43 | 62.90 | 46.79 | 213.90 | 155.90 | 86.97 | 60.63 |
| Total | 26.96 | 19.73 | 30.13 | 22.47 | 16.90 | 7.67 | 32.87 | 34.38 | 102.14 | 77.20 | 55.33 | 44.68 |

District I. includes Delaware, Maryland, District of Columbia, Virginia, West Virginia, and North Carolina.
" II. " Kentucky, Tennessee, and Missouri.
" III. " South Carolina, Florida, Alabama, and Georgia.
" IV. " Mississippi, Louisiana, Arkansas, and Texas.

In examining these figures it must be remembered that the census of 1870 was very imperfectly taken in many of the Southern States, and that the apparent great increase in the negro population is largely due to the incomplete enumeration of the negroes in 1870. Hence I prefer to compare the period 1840–60 with 1860–80, instead of using the ten-year periods. It is also to be remembered that migrations have affected the whites more than the negroes. Many more whites than negroes have left Group III., and the increase of population in Texas is largely due to white immigration.

We have little information of value relative to the vital statistics of the colored population in the South previous to the abolition of slavery. The only two Southern States having registration laws which were to any extent enforced were Kentucky and South Carolina. The Kentucky reports relating to the registry and returns of births, marriages, and deaths are eight in number, commencing January 1, 1852, and extending to December 31, 1859, the last report being printed in the early part of 1861. The South Carolina annual reports of registration of births, deaths, and marriages begin with the year 1853 and end with the year 1859. In neither State was the registration of either births or deaths in any year sufficiently complete to permit of accurate comparisons with the number of living population, either for the whites or blacks.

The conclusions drawn by the registrars may be summed up in the statement that the birth-rate of the slaves was much greater than that of the whites in South Carolina, while the difference was not marked in Kentucky; that in both States the death-rate of the negro was decidedly greater than that of the whites, especially in infancy, and that the average age at death was decidedly higher in the whites.

I have already shown the fallacies connected with taking the average age at death as a means of judging either the healthfulness of a locality or the expectation of life. Notwithstanding, this is practically the only ratio to which we can refer in regard to the question under consideration. In the last South Carolina report for 1859 the proportions are as follows:

| | |
|---|---|
| One birth in a population of | 48.27 whites. |
| " " " " " | 26.05 slaves. |
| " " " " " | 32.34 of both races. |
| One death in a population of | 136.82 whites. |
| " " " " " | 59.20 slaves. |
| " " " " " | 77.95 of both races. |
| Average age at death | 28.42 years in whites. |
| " " " " | 14.87 years in slaves. |
| One marriage in a population of | 169.90 whites. |

In the last Kentucky report it is stated that the average age at death was, for the whites, 21.21 years, and for the blacks, 18.27 years.

The records of the statistics of 1880 show that the birth-rate for the year was greater in colored than in the whites; since in the ten groups in which distinction of color was made for this purpose the birth-rate for the whites was 32.0, and for the colored, 38.06, per 1,000 of aggregate population; or for the whites, 127.1, and for the colored, 163.8, per 1,000 of women between the ages of 15 and 49. The birth-rate is always higher among the poorer classes of a population, and it is doubtful whether the birth-rate of the negro is higher than that of the laboring classes among the whites. The mortality among the colored infants in the earlier months of life is much heavier than among the whites in the same localities. For example, in the ten grand groups just referred to, out of each 1,000 infants born the number which died under six years of age was, for the whites, 66.7, and for the colored, 71.4. This fact tends to increase the birth-rate among the colored, because with the loss of the infant, and consequent cessation of nursing, the probabilities of a fresh pregnancy increase. The marked difference between the vital statistics of the white and colored in the South is much greater in the cities than in the rural districts, as will be seen from the following table.

The average mortality in a population of a little over 43,000,000 whites was recorded as 14.74 per 1,000; while in a population of 6,752,000 colored the recorded mortality was 17.28 per 1,000. It is known that each of these recorded death-rates is much lower than the actual one, owing to failure to record the whole number of deaths

[1] See paper by E. W. Gilliam, Popular Science Monthly, xxii., 433.

occurring during the census year; but it is also known that the proportion of failures to record was decidedly greater among the colored than among the whites, and hence the difference between the death-rates of the two races is even greater than that indicated by these figures.

two races under comparatively similar circumstances than we now have.[1]

The data are insufficient to bear out any definite conclusions and the above can properly be put in the form of questions only.

*Birth-rate per* 1,000 *of Living Population.*

| | Aggregate population. | | Birth-rate per 1,000 of living population. | | Increased percentage of colored births. | Increased percentage in urban over rural counties. | Born and dying during census year per 1,000 births. | | Increased proportion of colored infants born and dying during census year. | Increased proportion in urban over rural counties. |
|---|---|---|---|---|---|---|---|---|---|---|
| | White. | Colored. | White. | Colored. | | | White. | Colored. | | |
| Twenty-three counties in the South containing cities and large towns. | 588,129 | 586,038 | 28.71 | 35.08 | 6.37 | 1.22 | 100.01 | 140.06 | 40.05 | 11.66 |
| Fifty-one counties in the South containing very small towns | 542,705 | 591,336 | 34.31 | 39.46 | 5.15 | ... | 62.66 | 91.0 | 28.39 | ..... |

How far is this excessive mortality in the colored population due to race characteristics? Is it due to peculiar susceptibility on the part of the negro to certain distinctive forms of disease, or to his having less vital force and capacity to resist disease and death? Undoubtedly the great mass of the colored population is poor and ignorant, lives in the dampest and dirtiest parts of cities, and in the midst of unhealthy surroundings, and is in other respects unusually exposed to well-recognized causes of disease.

The statistics of 1880 show that the colored race is peculiarly liable to fatal results from certain forms of disease, especially consumption, pneumonia, diarrhœal diseases, affections of pregnancy, scrofula, and venereal diseases; and that, on the other hand, it is much less liable than the white race to fatal results from cancer, diphtheria, diseases of the nervous system, scarlet fever, and suicide.

Notwithstanding the interest and importance of the question, we have at present no sufficient data to determine whether the negro, under the same circumstances as to poverty, etc., is, or is not, more prolific or short-lived than the whites, and absolutely no data of any value for determining the relative fecundity and mortality of the mixed bloods, including mulattoes, quadroons, octoroons, etc. An effort will be made in the coming census to supply this deficiency as far as possible. In the enumeration of the population those of mixed blood will be recorded separate from the pure blacks and the pure whites, and an effort will be made to obtain corresponding records of death in order to determine the death-rates of these mixed bloods. An effort will also be made to determine the birth- and death-rates of certain classes of poor and ignorant whites, such as the tenement-house population in our Northern cities, as distinguished from those of the mass of the white population, which will give us a better means of comparison of the mortality of the

In studying the causes of disease and death in communities, a very important point to be considered is the relative poverty, ease, or luxury in which different parts of the population live—or the sickness and death-rates of so-called social classes.

That extreme poverty, producing inability to obtain the amount of food, clothing, and shelter requisite to preserve health is a direct cause of high death-rates, especially in Northern climates, is known to all; but the extent to which this factor of want influences the death-rates in different countries or communities is by no means easy to determine, and thus far we have, for the most part, only data bearing indirectly upon this subject. For the provident and presumably well-to-do classes we have the statistics of life-insurance companies; but these are for selected lives, which fact tends to give a low death-rate during the early years of the policy-holders, while, on the other hand, the tendency to cease paying annual dues and to give up the insurance is greater in those who are well and strong than in those who have reason to suspect that they are diseased, so that the death-rates in the greater ages are higher in the insured than in those not insured. We can only draw some inferences from the vital statistics of occupations, from tenement-house statistics, etc.; but it is very difficult to distinguish between effects of density of population, occupation, race, intemperance,

*Annual Rate of Mortality in Various Classes of the Population of Dublin at Different Age-periods during the Four Years* 1883–1886.

| Occupation or social position. | | AGE. All ages. | 0 | 5 | 20 | 40 | 60 and upward |
|---|---|---|---|---|---|---|---|
| All persons | Years of life | 1,406,124 | 151,853 | 400,111 | 490,174 | 260,459 | 103,527 |
| | Deaths | 39,476 | 12,365 | 3,535 | 6,519 | 7,652 | 9,405 |
| | Rate per 1,000 | 28.07 | 8.143 | 8.84 | 13.30 | 29.38 | 90.85 |
| Professional and independent class | Years of life | 122,198 | 9,113 | 28,950 | 37,832 | 26,987 | 19,316 |
| | Deaths | 1,857 | 187 | 85 | 237 | 350 | 998 |
| | Rate per 1,000 | 15.20 | 20.52 | 2.94 | 6.26 | 12.97 | 51.67 |
| Middle class | Years of life | 230,212 | 25,097 | 73,439 | 84,535 | 36,077 | 11,064 |
| | Deaths | 6,034 | 1,462 | 587 | 1,171 | 1,073 | 1,741 |
| | Rate per 1,000 | 26.21 | 58.25 | 7.99 | 13.85 | 29.74 | 157.36 |
| Artisan class and petty shopkeepers | Years of life | 430,493 | 52,299 | 129,588 | 141,909 | 79,705 | 26,992 |
| | Deaths | 9,902 | 3,611 | 1,123 | 1,621 | 1,883 | 1,664 |
| | Rate per 1,000 | 23.00 | 69.05 | 8.67 | 11.42 | 23.62 | 61 65 |
| General service class, including workhouse inmates. | Years of life | 623,221 | 65,344 | 168,134 | 225,898 | 117,690 | 46,155 |
| | Deaths | 21,683 | 7,105 | 1,740 | 3,490 | 4,346 | 5,002 |
| | Rate per 1,000 | 34.79 | 108.73 | 10.35 | 15.45 | 36.93 | 108.37 |

[1] Dr. Berenger-Feraud, in a note on the fecundity of the mulattoes of Senegal, published in Revue d'Anthropologie, 2d Series, vol. ii., 1879, page 577, gives the details with regard to the offspring of 118 females of mixed blood, and concludes: 1st, That the union of a white man with a negress in Senegal produces children apparently of good health; 2d, the offspring of these mulattoes between themselves, when there is no further intrusion of pure black or white blood in the descent, gives children who are usually sterile; 3d, when there is a new addition of white blood after the first generation, the offspring are less vigorous, the number of the girls becomes greater than that of the boys, and the girls are often sterile with a strong tendency to abortion.

uncleanly habits, and actual want of the necessaries of life.

One of the latest systematic attempts to enumerate the population of a city by social classes, and to obtain corresponding reports of deaths so as to give death-rates, is that made in Dublin by Dr. Grimshaw, the results of which are shown in the table opposite :[1]

In this connection may be mentioned the statistics collected by insurance companies among the Quakers or Society of Friends, both in England and in this country.

In 1830 Mr. Robert Rankin published a table showing the probability of life among the Society of Friends in the city of Bristol, England.

The superior expectation of life shown in this city led to the establishment of a Friends' Provident Insurance Institution in the following year, due to the belief that the members of this society had a superior longevity; but the parties concerned, with their usual business sagacity, did not invest money on a mere belief. They set to work and collected all the registers of Friends in different parts of the kingdom, with births and deaths, from which a table[2] was prepared showing that at birth the expectation of life was:

| | |
|---|---|
| At 5 years | 41.8 |
| At 10 " | 45.3 |
| At 15 " | 42.1 |
| At 20 " | 39.2 |
| At 30 " | 33.3 |
| At 50 " | 21.2 |
| At 60 " | 14.7 |

The tendency now is to accumulate the best and the worst of the race in the cities. They draw to them the most enterprising, vigorous, and prudent, whose tendency is to late marriages and few children, and thus tend after a time to lower the standard of the race. "Where the tendency is to replace a feeble and lower race by a better one there is progress, where the tendency is the reverse there is decay. The hope that by increased knowledge, charity, and co-operation, the feeble, the sickly, and incompetent can be so cared for that they shall become strong and vigorous, is that held by most men of the present day, but there is nothing in the laws of heredity which gives any foundation for this hope."

What is to be the outcome of this modern civilization? "Its enemies are not without but within—not savage nations on its borders, but dwellers in its own cities." The general tone of modern European literature is pessimistic as to the future, filled with doubts and fears as to what the coming supreme democracy will do. In this country it is more hopeful, and looks forward to progress in improvement in the physical conditions of the race, though admitting the dangers and difficulties which this very physical improvement tends to produce. But, whatever be the views of individual thinkers and writers, on one point all can agree, and that is as to the desirability of having at our command definite, positive information as to the character, amount, and set of currents of this stream of human life in different countries and localities. An important part of such knowledge is that which relates to the composition of, and changes in, the population in different countries, which is the special field of vital statistics.

(To be continued.)

SYNTHETIC CARBOLIC ACID.—Carbolic acid is now prepared synthetically by a German chemical house. It is claimed that many of the unpleasant effects of the ordinary carbolic acid are due to the impurities that it contains, and that these are not produced when the synthetic preparation is used, as the latter is chemically pure.

[1] From British Medical Journal, 1887, vol. ii., p. 343.

[2] See Insurance Cyclopedia, vol. v., p. 144; also table on p. 147, comparing expectation of life of Friends with those of the general population, and showing a decidedly higher average for the former. Compare with this, on p. 150, the mortality table for the Society of Friends in Philadelphia, prepared by Chase, in 1875.

# Original Articles.

## ONE OF THE CAUSES OF TYPHOID FEVER.

BY WM. THORNTON PARKER, M.D.,

NEWPORT, R. I.

VON GIETL, in his work[1] "Die Ursachen des Enterischen Typhus in München," defines typhoid fever as "a specific, putrid, intoxication disease (Intoxications-krankheit), which is composed of a chain of diseased processes which are dependent upon one another, but which do not retain a regularity either in number or in succession. Its local effect is a catarrh of the alimentary canal; the further and peculiar result a swelling of the glandular apparatus as well of the mesentery as the mucous membrane of the intestines. Exfoliation and ulceration generally follow, the final effects being mortification in all degrees. The lower grades of typhoid infection agree perfectly in their manifestations with the simple form of putrid infection. These last originate by inhaling and swallowing air already vitiated with foul odors, and loaded with poisonous materials. A most frequent cause of this is to be found in little, narrow, over-filled sleeping-rooms, with closed doors and windows, or when in these rooms decaying materials are to be found, or the vapors penetrating the atmosphere of the room from outside. Moreover, the typhoid fever is also putrid infection, but with specific character that manifests itself through the engendering of a specific poisoning in the body sick, and thereby affording immunity from a second attack; therefore the typhoid must have a certain individuality. Whether the typhoid fever can originate by a collection of certain favorable circumstances recognizable, or whether its germ must be taken into the system, is at present unknown. Observation has, up to the present time, been unable to solve the question, but it is beyond doubt that foulness animates the typhoid poison and favors its development. Observation proves further that fecal material finding its way into drinking-water caused the severest form of typhoid; that the typhoid fever can remain resident and persistent in a house for years; that now and then, in hospitals, barracks, or tenement houses, the infection locates itself in certain rooms while those occupying the neighboring rooms escape altogether." These are but a few quotations from the admirable work of Von Gietl already alluded to. No man has had greater opportunities to study and investigate typhoid fever, and no one has more faithfully improved such opportunities than Von Gietl. The teacher of Lindwurm, Liebermeister, Von Ziemssen, and many other more or less distinguished in researches concerning typhoid fever—how seldom we see his name quoted! The master-mind as professor of general medicine at the University of Munich, and in charge of the great wards of the General Hospital of that city, where there is more typhoid fever to be studied than in any other city in the world, Von Gietl's opportunities certainly were extraordinary. Pepper, in his admirable "System of Medicine," quotes Budd, the student, but not the master. Fagg refers to Von Gietl as well as to Budd, his student, and states that the Munich theories are now widely adopted. I should like to quote more from Von Gietl's work, for it is worthy of more careful notice, although many who believe in the bacillus typhosus would consider Von Gietl's conclusions altogether too old-fashioned for them. And yet one at least of the old-fashioned conclusions of Von Gietl has been brought very forcibly to mind by the recent fatal outbreak of severe enteric fever on the U. S. S. New Hampshire.

As a student of von Gietl in Munich, in 1872 and 1873, I well remember one of his theories concerning the origin of this fearful disease. Those who have visited the large houses of Munich, and of other German cities, still re-

[1] Conclusions concerning the Causes of Typhoid Fever in Munich, by Professor Von Gietl, translated by W. Thornton Parker in The Sanitarian.

member that each house has a large privy vault, from the main shaft of which smaller passages lead to the seat of the privy. These passages are as large as a man's body until they connect with the main shaft, which is very large. A simple wooden cover covers the seat when the privy is not in use; the instant it is removed a strong current of foul air loaded with fecal matter rushes into the room. For an American accustomed to our more cleanly privies this stench is intolerable. On entering a German house we notice the halls contain more or less of this fecal odor —the rooms next to the privy, although not communicating by a door except through the hall, are noticeably odorous with fecal matter. This odor has actually penetrated through the walls, windows, and doors. Now von Gietl, upon examining a patient admitted into the General Hospital in Munich, suffering from typhoid fever, would invariably ask the patient if his room were next to a privy-room, and if he noticed a privy odor in the room. Very often the answer would be—yes.

I mention this to show that von Gietl believed that exposure to continued fecal odor, without other contagion, would develop typhoid fever. Now, there are many other old fashioned theories, pushed aside by those who are collecting the various specimens of bacilli, which are well worth remembering. It is difficult for some men, myself included, to believe that we have one bacillus for typhoid fever, another for cholera, another for diphtheria, another for scarlet fever, another for phthisis, another for gonorrhœa, and so on *ad infinitum*, until our collection of these interesting little creatures would rival in number the coins of a numismatist. More easily believed and understood is the paper of Dr. Griffith on the "Unity of Poison" in scarlet, typhoid, puerperal fevers, and diphtheria, erysipelas, sore throat; certain forms of diarrhœa and allied ailments, in pleurisy, pneumonia, and pleuro-pneumonia, and many other affections heretofore usually considered to be separate and entirely distinct diseases.

Would it not be fair to assume that the unsanitary conditions surrounding the United States ship New Hampshire were sufficient to propagate typhoid fever on board that vessel—without the appearance of the bacillus typhosus to properly start the mischief, according to the scientific theories of some of our modern investigators?

The United States ship New Hampshire is an old-fashioned "man-of-war," which, on clear blue water, might have been a safe and healthy home for double the number of men and boys who have lived on her during the past five or six years; but in an abnormal element, *i.e.*, resting in a mud-hole, and surrounded by mud and all uncleanness, and with tons of fecal matter piled up around her bows, she could hardly have been considered a safe resort for human beings. The fecal element was certainly in the majority here, and the atmosphere loaded with fecal matter entered the ports on its death-dealing mission. Her brave old sides of oak, which would have held her gallant crew in safety in the good old days, gave no protection to this new and treacherous foe, when she had been dragged from her normal element into the unnatural and filthy place in which so many of her crew received their death-wounds in the shape of typhoid fever.

It is not my intention to magnify the fact that fecal odor, or the gases escaping from large quantities of decomposing fecal matter, can produce typhoid fever, but merely to protest against the claim that, given a case of typhoid fever, the bacillus typhosus must have had some influence in its causation. That many different shaped bacilli can be found in the discharge of patients suffering from various disorders, there can be no doubt. Many admit that a sufficient quantity of these same bacilli may, under favorable conditions, induce disease; but it seems to me more reasonable to suppose that decomposition of animal and vegetable matter is more frequently the cause of preventable disease, rather than that the emigration of particular bacilli is to be the principal cause recognizable.

It is not the intention of this paper to bring forward a theory of odor as the principal causation of typhoid, or to deny the germ of disease which may go from one person to another through the medium of air, water, or food, but merely to call for a recognition of the theory of von Gietl, that fecal odor alone—if continued and sufficiently strong—can, and often does, develop typhoid fever, and that this theory has had a very startling illustration in the many deaths which have occurred from the infection received on board the United States ship New Hampshire.

I believe that true science does not tend toward such a complication of terms and theories that the average mind stands appalled on contemplation, but that knowledge simplifies and makes easy what before seemed incomprehensible; and that, even as with machinery, the attainment of the more perfect is the employment of the more simple. So, as we advance in medical science, we will discover how much of truth there is to be found in the theory of unity in disease. We have the foul conditions obtaining which I have just referred to, and at one time an epidemic of scarlet fever will result, at another diphtheria, at another more or less severe diarrhœas, and as in this instance, at another typhoid fever. Filth and health are directly antagonistic. Nature abhors filth, and strives in every way possible to get rid of external or internal waste or foul substance. Filth lowers the health, and if it be not destroyed is itself the destroyer of life; but in accomplishing this work, it may do so in many different ways and yet exhibit itself only in one exciting cause or in a combination of causes—foul air, foul water, foul privy vaults, decaying animal and vegetable matter. I believe the time will come when the remarkable exploits of the many-shaped and many-named bacilli will be one of the curiosities of medical literature. Dr. Griffith's admirable illustration of unity of poison is shown in this extract from his writings concerning the series of evolutions—symptoms—resulting from dissecting wounds received while operating on the bodies of those who have died of peritonitis: "One will die rapidly, say in twenty-four or forty-eight hours, from acute blood-poisoning; another will have multiple abscesses; another abscesses and pneumonia or pleuro-pneumonia; another the same, plus meningitis, or even in addition kidney or liver mischief in more or less acute stages; another all the preceding, plus pericardiac and cardiac affection, leaving or not, if the patient recover, permanent cardiac mischief; another, in whom a tendency to phthisis exists, will fall into true tubercular consumption—the multiple abscess stage preceding it or not in the course of evolution and development of the materies morbi."

Burdon Sanderson has shown that, starting with a simple irritant inflammation, he can produce a virulent specific poison reproducing its like and killing either by pyæmia or more slowly by tubercular disease.

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## A CASE OF TUBAL PREGNANCY SUCCESSFULLY TREATED BY ELECTRICAL FŒTICIDE.

By GEORGE M. EDEBOHLS, A.M., M.D.,

GYNECOLOGIST TO ST. FRANCIS HOSPITAL, NEW YORK.

Mrs. E——, aged thirty-three, native of the United States, has always enjoyed most excellent health. She is the mother of two children, aged five and a half and three and a half years respectively. Last confinement, December 2, 1885; no miscarriages. Menstruation began when fourteen years of age, and has occurred with the most invariable regularity ever since, except when interrupted by gestation. Her last regular menstruation occurred March 22, 1889. The non-appearance of the menses four weeks subsequently, and the occurrence of slight morning sickness, led to the suspicion of pregnancy.

April 23 to 30, 1889.—Repeated severe colicky pains in lower part of abdomen, especially on right side.

May 1st.—Examination shows uterus of normal size, slightly retroverted (first degree). External os somewhat soft and slightly patulous. To right of fundus a small,

tender mass, taken at the time for a partially prolapsed, and probably inflamed, right ovary. Excessive tenderness prevented a thorough search for the right ovary in its normal position.

May 5th to 13th.—Metrorrhagia, more free than at periods, accompanied by colicky pains, and the discharge of a few small shreds.

May 13th.—Tubal pregnancy strongly suspected. Hemorrhage controlled by tamponing vagina with iodoform gauze.

May 13th to 21st.—No further hemorrhage, but persistent colicky pains, and pains down anterior parts of right thigh. Daily examination showed mass to right of uterus to be steadily and rapidly increasing in size. A positive diagnosis of tubal pregnancy of the right side was now made, based upon the following considerations: 1. The symptoms, above detailed, of an incipient gestation. 2. The development and rapid, steady growth of a tumor in the region of the right tube, where it was positively known that nothing abnormal had previously existed. 3. The accompanying of this development by metrorrhagia, labor-like pains, and the passage of shreds.

On May 22d I accompanied Mrs. E—— to the office of Professor T. Gaillard Thomas, to whom I stated my diagnosis. Dr. Thomas was prevented by pressing engagements from making an examination, an appointment for which was made for the following day. On the way home the patient was suddenly taken with the most excruciating abdominal pains, fainting, vertigo, and symptoms of collapse. Her pulse became rapid, small, and thready, and her countenance blanched. Immediately upon reaching her home, which was accomplished with the greatest difficulty, I injected fifteen minims of Magendie's solution hypodermatically. Cessation of pain and improvement of general symptoms followed. At my request Dr. Thomas very kindly saw the patient with me in the evening, made a careful examination, and confirmed the diagnosis of tubal pregnancy. He considered that an imminent rupture had been prevented by the morphine. Electrical fœticide was agreed upon as the treatment to be pursued.

May 23d.—Electricity applied by Dr. E. L'H. McGinnis, in the presence of Dr. Thomas and myself, with every preparation made for an immediate laparotomy, in case of the occurrence of untoward symptoms. A round electrode was applied in the vagina against the mass, and a flat electrode on the abdomen over the site of the tumor. The slowly interrupted galvanic current, 75 milliampères, applied for ten minutes, gave no pain, although it produced violent spasmodic contractions of muscles of abdomen and of right lower extremity.

The electrical applications were repeated in the same manner and with the same results on May 25th, 27th, 30th, June 3d and 6th—six applications in all. During this time the patient suffered much from pains in the lower part of the abdomen, more of a quiet and steady than of the previous colicky nature, accompanied by a slight rise of temperature (up to 100⅘° F.) and pains and soreness in the abdominal muscles. The latter I attributed to the violent contractions produced by the electricity. The pains on two occasions called for hypodermics of morphine for their relief.

June 2d.—Patient seen by Drs. Thomas and W. R. Gillette. The latter concurred in the diagnosis and approved the treatment.

June 15th.—Menses reappeared, normal in duration and amount, and painless.

Dr. Thomas examined Mrs. E—— toward the end of June, and verified the cessation of growth of the tumor.

November 21st.—Patient has remained perfectly well since June 6th. On two occasions excessive exertion was followed by dull pain in the right groin, lasting for one day. With this exception, there has been absolutely nothing to remind her of her former trouble. Examinations at intervals have enabled me to follow the gradual diminution in size and final disappearance of the mass, without any further treatment. To-day nothing abnormal can be found in the pelvis by bimanual examination.

I have thought it worth while to place the case on record for the following reasons: 1st. Because the subject of uterine gestation and its treatment is one of lively interest just at present. 2d. Because the diagnosis, carefully and deliberately arrived at, and confirmed by two such eminent authorities as Drs. T. G. Thomas and W. R. Gillette, cannot reasonably be questioned. 3d. Because of the entirely satisfactory results of the treatment employed—the destruction of the fœtus and its complete absorption within six months, without having exposed the mother to the perils and possible sequelæ of a laparotomy.

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## CATARRHAL NEURALGIA.[1]

By A. G. HOBBS, M.D.,

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I have purposely not used the term *catarrhal headache*, or *catarrhal browache*, because both are too restrictive to cover the condition that I desire to discuss.

By *catarrhal neuralgia* I mean to include not only the headaches and browaches that are caused by the pressure from nasal hypertrophies or foreign growths, but all reflex pains that have for their origin pressure in the nasal cavities, whether they be located in the forehead, the temples, across the bridge of the nose, or over the cheek-bones. That such reflex pains do occur, and have for their cause pressure in the nasal cavities, was known long ago, and I might quote authorities, but I consider that to do so, before the Fellows of this Association, would be an unnecessary waste of time. When we consider the great number of sensitive nerves, with their different sources, that supply the nasal and adjacent mucous membranes, reasoning from the abstract we might conclude that reflex pains would be caused by any pressure upon these mucous membranes and their underlying tissues, but I am sure that I am warranted in saying that it is the *experience* of everyone here that such pains not only exist, but have their origin in nasal hypertrophies or neoplasms. If these pains were only occasional, or of short duration, they might not demand so much of our attention, but in many cases the pains are more persistent than the neuralgias from any other cause, and they, many times, produce a more profound impression upon the general system, indicated by a sense of lassitude, a haggard expression, a malassimilation, and a decided loss of weight.

Much has been written recently on headaches and browaches caused by uncorrected errors of refraction, and it cannot be denied that such reflex pains, often accompanied by nausea and dizziness, frequently have their origin in asthenopia and astigmatism. Such symptoms are reflex in character and have their origin in the ciliary region of the eye, a part so abundantly supplied with peculiarly sensitive nerves. While we should not be hasty in diagnosing the origin of such reflex symptoms, I do not consider it difficult to differentiate between the eye and the nose, as the cause, when the two do not coexist. Ocular headaches are more intermittent, usually following a prolonged use of the eyes; catarrhal neuralgia persists longer at each attack and usually follows a coryza. Ocular headaches, if severe, are often accompanied by nausea and dizziness; catarrhal neuralgia rarely, if ever, causes the latter symptom.

When the eye is the cause, the pain is situated in the front part of the head and temples; when the nose is the cause, the pain is not only in the head and temples, but it may extend downward into the facial bones. Both causes may coexist in the same case, when relief can be effected only by both correcting the error of refraction and reducing the nasal pressure. In such a case only a partial relief would be reached if either of the causes were neglected.

[1] Read at the Seventh Annual Meeting of the American Rhinological Association, Chicago, October 11, 1889.

I have no statistics bearing upon the comparative frequency of catarrhal and ocular neuralgias other than my own note-book of the last three years. In it I find 54 cases under the combined headings: *Catarrhal neuralgia, ocular headache, and catarrhal and ocular neuralgia combined.* Thirty-six cases occur under the first caption; 14 cases under the second, and 4 cases under the third.

My recollection is that I have placed no one of these cases under its respective heading except where the patient applied particularly for relief from some of the above-mentioned neuralgic symptoms. In the great majority of these cases the patient had no clear idea of the cause of his trouble, and, indeed, in many of them, he had "gone the rounds," and had taken all the anti-neuralgic remedies mentioned in therapeutics, or, I might say, mentioned in the current circulars of enterprising drug-houses. It may be that the preponderance of catarrhal over ocular neuralgias, occurring in my note-book, is due to the fact that I treat more nasal than eye cases; but it is my opinion that the nose, more frequently than the eye, is the cause of the reflex neuralgias.

After recognizing the etiology of a case exhibiting these reflex pains, on account of the severity of the pain, temporary relief should be given the patient by the application of cocaine sprays, or, in the case of complete stenosis, the cotton probe saturated with cocaine first, then the sprays. The effect should then be to reduce the pressure permanently by the means that is most rapid.

If the pressure be due to a polypus, extract it; if to a deflected septum, remove the deflection; and if it be, as is most likely the case, due to an hypertrophy, reduce it with the galvano-cautery, the snare, glacial acetic acid, or chromic acid. I find myself most frequently resorting to the latter. After the removal of the pressure, pain ceases to a great extent, if not entirely; then the more soothing treatment of vaseline sprays, in combination with cocaine, pinus canadensis, oil of terebene, or oil of eucalyptus, daily or tri-weekly, will complete the resolution.

Many cases that are essentially acute, due to a recurrent attack of an old hypertrophy, may be relieved by a few well-applied cocaine sprays; but, if left in this condition, the patient will be subject to a recurrent attack at the next coryza.

I will amplify only a few cases from my note-book. Mr. H——, about thirty years of age, commercial traveller, came to me with excruciating pains in his forehead, temples, across the bridge of his nose, and over the cheek-bones of the left side; had been subject to these attacks for three years, each time he caught cold; had had no relief from medication except when insensible from morphine; attacks lasted from three to ten days. Upon examination, both nasal passages were found closed from acute coryza. After opening the passages, by inserting cocaine on a cotton probe, sufficiently to introduce a spray of cocaine and vaseline, relief followed almost instantly. He was then instructed to use cocaine in a vaseline spray during the remainder of the afternoon and evening as often as was necessary to keep the passages open. He returned the next morning, having had but slight recurrences of pain during the interim. At this treatment, after thoroughly opening the passages with cocaine in a vaseline spray, I touched the more prominent hypertrophies lightly with glacial acetic acid and ordered the continuance of his spray at less frequent intervals. At his return the following day he reported himself entirely free from neuralgia, and when I had thoroughly removed the acid sloughs, the nasal passages were comparatively open. The patient left town that day, without pursuing the treatment as I advised. Three months afterward he felt an attack coming on in a neighboring city, when he started at once to me. After giving him relief as before, he consented to remain three weeks, during which time I treated him in the conventional way for nasal hypertrophy. In writing to me two weeks afterward, he said he had never had a recurrence of his attacks. I find in my note-book fifteen other cases similar in most respects to this one; some of them evinced some mild asthmatic symptoms, in addition to the facial and brow pains.

The same treatment was effectual in all of these cases, without an exception.

I will now describe a case more chronic in its nature.

Mr. W——, aged thirty-two, gave me his history as follows: About six months previous to his first visit to me he began having severe attacks of neuralgia in his face and forehead, when shortly afterward the pains became almost constant, and he had asthmatic symptoms at night; he was oppressed by a feeling of malaise; lost his appetite and strength, and his weight decreased from two hundred and ten to one hundred and thirty pounds in a few months. After exhausting the skill of his family physician he went for six months to a hydropathic institution, thence to another sanatorium for two months more. In the meantime he had taken many anti-neuralgic and tonic remedies. When I first saw him the pains in the forehead, temples, across the bridge of the nose, and over the left malar bone were almost constant; he had nightly attacks of asthma in a mild form, but sufficient to interfere with his rest; he had a haggard complexion, was weak, and weighed only one hundred and thirty pounds. Upon examining his nasal cavity I found a septum deflection on the left side and a large turbinated hypertrophy just opposite. In addition to this, a posterior nasal examination revealed a large polypus which completely occluded the left chonæ; the right side was also in a hypertrophic condition. The right nasal passage had been almost constantly occluded for six or eight months. He said it had not been suspected before, that his nose had anything to do with his trouble. The polypus was removed with a Sajous post-nasal snare at the first sitting, when a partial opening was effected. I do not consider it wonderful when I say that he had no severe pains after the first sitting. He was instructed how to use cocaine in a vaseline spray, to prevent the recurrence of the pains. My treatments were continued at first daily, then tri-weekly, and weekly for months, until he was entirely relieved of his nasal trouble. He began to regain his strength and weight at once, and he had, at no time, anything more than a trifling recurrence of neuralgia.

It is not eighteen months since I completed his treatment; he weighs two hundred pounds, and has had no sign of neuralgia since the treatment ceased.

I find in my notes five cases similar in many respects to this one, particularly in that they were of long standing before their etiology was recognized. The nasal features of these cases were not the same, except that pressure existed in all.

I will describe a case to show that both nasal pressure and refractive error may be the combined cause of these reflex neuralgias. Mrs. R——, aged thirty-six, came to me with the symptoms described above, together with nausea and dizziness after having made the slightest attempt to read or to do any close work. I first thought I had a case of refractive error plain and simple; so I paralyzed the accommodation and corrected the astigmatism, which was moderate in degree. She was greatly relieved, to the extent that she had no nausea and dizziness after reading, which act she performed better than ever before. There seemed, however, to be but little, if any, relief from her forehead and facial neuralgia, which continued to nag her at intervals. After ten days I examined the nasal cavity, which I had failed to do before, when I found a decided hypertrophy over the turbinated bones of both sides. Not until this was removed, after a treatment of six weeks, was she entirely relieved of all her symptoms. While at a summer-resort during the following summer she broke her glasses, and in trying to do without them she had a slight return of browache, and when she tried to read, a tendency to nausea and dizziness followed. After receiving her new glasses there was no return of any of her symptoms. I find in my notes three other cases similar in many particulars to this one.

I know of no class of cases that apply to us for relief

in which treatment can give more prompt and satisfactory results; indeed, when we make no mistake in the etiology the result is absolutely sure, if we resort to means that are effectual in removing the pressure upon the terminal sensitive nerves that are distributed to the nasal mucous membrane.

## Clinical Department.

### A CLINICAL NOTE ON CHLOROFORM WATER.

By HARVEY B. BASHORE, M.D.,
WEST FAIRVIEW, PA.

Chloroform water has lately proved to be of much value to me in the treatment of false croup, and is in this affection superior, I think, to chloral, in that it is not so dangerous and is eliminated in part by the lungs; of course, its action is purely local and its value, too, probably due to the sedative effect upon the sensitive filaments of the superior laryngeal nerve.

I use a solution consisting of five to ten minims of chloroform to an ounce of water, to which is added a little glycerine to aid the solubility of the chloroform. A teaspoonful of this is given every half-hour during an attack, and if there is any dyspnœa the following day, a teaspoonful is given every two hours, increased in frequency to every hour during the evening.

This method of treatment—which is especially applicable to those cases in which the dyspnœa and cough continue during the day—I have used very successfully.

### CONGENITAL ABSENCE OF RIGHT TESTIS—ECTOPIA OF LEFT—OPERATION FOR ECTOPIA—RECOVERY.

By HAMILTON WILLIAMS, M.D.,
BROOKLYN, N. Y.

Mr. ——, of Brooklyn, aged twenty-three, consulted me early in September last. He complained of a tumor in the left groin, which, of recent years, had troubled him very much, interfering, by reason of attendant pain, with locomotion, and with the discharge of the sufficiently laborious duties of his calling. The upper limit of the tumor reached to within a few lines of the level of the external abdominal ring, while its inner border was distant somewhat more than an inch from the line of descent of the cord. The size was that of a pigeon's egg. Some pressure was necessary to elicit pain, and then it was hardly of the sickening testicular type, though, indeed, the latter had a rather awkward knack of "materializing" when the patient walked much or lifted weights. There was no moving of the tumor *from* its bed, but *in* it there was a possibility of some slight axial rotation. The scrotum was empty on both sides, and of no more than two-thirds normal size. The diagnosis was that of ectopia of the left testis. No trace was to be found of the right. The patient attributed his condition to a fall when about twelve years of age, but the absence of cicatricial marks and the testimony of his mother attested its congenital origin. He was otherwise well built, and might have been deemed robust, were it not for extreme nervous debility, hesitating, faltering manner, and unfixed gaze. He was much depressed from a prolonged experience of "wet dreams," "spermatorrhœa," want of "courage" in the society of women, and the dismal categories of the advertising quacks. I operated on September 17th. An incision was made over the tumor. The coverings were precisely those of the testicle within the scrotum, save that the superficial fascia of the groin answered for the dartos. On passing through the parietal layer of the tunica vaginalis, the gland was easily lifted from its bed, but extensive adhesions, some possibly inflammatory in origin, stood in the way of its traction in the direction of the scrotum. The adhesions were torn through without avail, and I began to fear the cord would prove too short for the journey. An upward and inward extension of the incision revealed a looping of the cord between the globus major and the external abdominal ring. Further adhesions extending into the canal maintained this looped condition. The cord, straightened out by the severance of the adhesions, gained sufficiently in length, but with none to spare. It was evident that others affected it within the ring. An incision was now made from near the lower extremity of the former downward and inward to the scrotum and along its side, yet somewhat posteriorly. The inner side of the pocket formed by the parietal layer of the tunica vaginalis was next freely torn through. This had hitherto, after the manner of a partition wall, stood across the road to the scrotum. The removal of the gland with an intact parietal covering would have necessitated overmuch dissection to no useful purpose. The testicle was now placed on the scrotum, and retained in position by sutures attaching its lower end to the base near the septum. Having closed the wound, I put a second line of sutures through the scrotum, so as to confine closely the testicle between them and the septum. That I found to answer well. All was done under the strictest antisepsis. There was absolutely no suppuration, and even the precaution was not taken of providing for drainage in the dependent portion of the wound. He made a perfect recovery, being out in ten days. Every symptom and consequence of perverted functional activity of the gland left ahead of the sutures. The constraint of the gland, in its irregular site, brought about all the nerve trouble with advancing manhood. Even from the artistic stand-point of the nude and antique, he is a much more available Apollo. He himself spoke of "being a man at last." In conclusion, it may be noted that a firm band of fibres, shooting from the extremity of the testis on toward the perinæum, and attached probably to some portion of the pubic arch, perhaps as far back as the ischial tuberosity, showed the anomaly to spring from an irregular origin of the gubernacular cord.

### URÆMIC CONVULSIONS CONTROLLED BY MORPHINE.

Dr. F. J. Bowles, of New York City, reports the following case: "On October 7th, C. D——, aged thirteen, gave the ordinary symptoms of malarial poisoning. When seen on the 28th, for a cold, she had improved, although headaches were still complained of. On the same day her mother came with her and called my attention to an abdominal distention and a slight puffiness about the eyes, saying, as she did so, that she believed these conditions, together with headaches and an irritability of disposition, had been present for the past few months. Some of these symptoms were thought to be the result of the bad drainage, ventilation, etc., of the school house where she was attending school.

"Upon the addition of nitric acid to the urine, albumin was precipitated to the extent of one-half the column. I would mention in this connection, as having a possible bearing on the cause, a habit our patient had acquired at a very early age of retaining her urine, until obliged by discomfort to void it. It was not an uncommon thing for her to retain the urine after retiring at night, until her return from school, on the afternoon of the following day.

"After discovering albumin on the 28th, I adopted measures for increasing the activity of the skin, bowels, and kidneys. In this I was partially successful, until the night of October 7th, when there was total suppression, with uræmic convulsions. Impressed with the gravity of the case, I called in Dr. Sumner A. Mason, when further efforts in the same direction were made. Between the hours of twelve at midnight on the 7th, and four in the afternoon of the 8th, she had twelve convulsions. At

that hour I called and found her in the last of a series of three. The pulse was uncountable, respiration shallow and irregular, and the general condition such as to point to a speedy dissolution.

"Believing that the means employed to bring about an action of the kidneys had been interfered with by the convulsive seizures, it occurred to me that if I could procure perfect relaxation an action might yet be secured. To this end I gave a hypodermic injection of morphia sulphate guarded by atropia sulphate. The effect was all that could be looked for. The convulsions were arrested, the pulse came down to ninety, respiration became uniform and tranquil, and a quiet sleep ensued. In a few moments I was gratified to find there had been a copious flow of urine. The recovery from that time to the present has been uninterrupted. The albumin, which very nearly filled the column, has totally disappeared under appropriate treatment.

"What impressed me as being of special interest in this case, and which led me to report it, were the importance of examining the urine of patients with headaches, and the value of morphine given at the right time."

## Progress of Medical Science.

THE ACIDS OF THE STOMACH.—There is no doubt that the chief acid found in the stomach during natural digestion is free hydrochloric acid. This has been abundantly proved by Bidder and Schmidt, and numerous observers succeeding them (*The British Medical Journal*). The methods used are, however, too long and too complicated to employ in clinical work. The physician wishes to know what, in a particular case of disease, are the chemical changes going on in the stomach: whether, for example, hydrochloric acid is present as well as pepsin and organic acids. Now, in the examination of the contents of a diseased stomach three forms of acid may be present—hydrochloric acid, a mineral acid; organic acids, such as lactic acid, butyric, etc.; and thirdly, acid phosphates. It is chiefly of importance to determine the presence of hydrochloric acid and of organic acids. Many methods have been proposed for doing this; they consist mainly in testing the effect of the stomach contents on various colored solutions. Thus a solution of methyl-violet is decolorized by hydrochloric acid, so that if this reaction is obtained the free acid is present in the liquid tested. Lactic acid turns the violet a dirty yellow. Tropæolin also is turned deep reddish-brown by free hydrochloric acid. Unfortunately these tests, simple as they appear, are not accurate, since the reactions are interfered with by the presence of peptones and of some neutral salts, and, as these are usually present in the stomach contents, no reliable results can be obtained by using methyl-violet and tropæolin. They have been superseded by congo-red, which is turned blue by free hydrochloric acid, and by a solution of vanillin and phloroglucin in alcohol, which is turned a deep red by the same acid. These simple clinical tests are, however, rendered useless by the fact that they are interfered with by the presence of peptone, ammonium salts, chlorides, and phosphates. In the present state of our knowledge, therefore, there is no reliable indicator for the presence of free hydrochloric acid in the stomach contents. Other methods which may be used are too complicated for clinical use. Thus ether has the property of dissolving organic acids from a liquid, leaving the mineral acids in solution. It may thus be used for separating the lactic, butyric, and other acids from the hydrochloric acid; and if, in a liquid obtained from the stomach, it is found that ether removes the whole of the acids present, it may be concluded that no free hydrochloric acid is present. In many cases this conclusion would be an important one as a clear indication for a line of treatment. Dr. Leo has lately published a new method for the indication of free hydrochloric acid which may prove useful. Leo considers the case where it is only a question of the presence of free hydric chloride and of an acid phosphate. To a few drops of the stomach contents a pinch of carbonate of calcium is added; if the acidity, as tested by litmus paper, disappears, only a free acid is present, but if the liquid is still acid after the addition of the chalk, an acid salt is present. If, moreover, organic acids be present they must be first removed by shaking with ether before the chalk is added. It does not seem that Leo's method is one that can be applied at the bedside, because the detection of free hydrochloric acid is chiefly requisite in those cases in which organic acids are also present, as in cases of dilated stomach. At present, indeed, a ready method, suitable in clinical practice for the detection of free hydrochloric acid in organic liquids, is a desideratum.

THE PSYCHO-MOTOR ORIGIN OF DELIRIUM.—M. Ritti, of Charenton, read a paper recently on the psycho-motor origin of delirium, in the name of a colleague. As those of language, the troubles of the intellect should be attributed to sensorial and motor lesions; there is no form of mental disease in which these latter are more manifest than that of mania (*The Medical Press*). It is by depression of the psycho-motor energy that the patient feels himself isolated from the outside world, and by its animation in the state of excitability, irritability, that ideas of greatness, strength, etc., seize the individual. In the discussion which followed, M. Gamier said that, although he agreed in part with what had been read, he could not help remarking that in general paralysis or softening of the brain, in second and third period, ideas of grandeur, etc., attain their maximum, although the motor power is diminished to its lowest ebb. M. Regis spoke on four cases of hypocardriacal lypemania, and gave the distinct signs of lypemania and softening of the brain, which he enumerated as follows: The delirium of softening of the brain presents a character of absurdity, stupidity, and incoherence. It appears suddenly, is mobile and inconsistent, the patients speak without conviction and do not contradict, and are slow to speak on their sufferings, while the reverse obtains in lypemania. The patient discourses constantly on his affection, seeks to convince those around him, and gets angry when contradicted. In softening of the brain, the delirium takes sometimes the form of greatness, ambition, etc., but nothing of that sort is witnessed in lypemania. The delirium of softening of the brain is not benefited by morphia, as in the case of the other form. The former comes on between the ages of thirty-five and forty-five, while lypemania is observed at a more advanced age, and more frequently in women than men in the ratio of eight to twelve; ideas of self-destruction, voluntary mutilation, apprehension of not being able to die, etc., are frequent, but for many years the intellect remains intact and the mind lucid. The examination of the viscera gives generally a negative result, but a saburral state of the tongue, inertia of the stomach, constipation, a frequent pulse, and progressive wasting is often witnessed. A cure is possible.

THE TREATMENT OF INGROWING NAIL WITH TIN FOIL.—Dr. Theodore Clemens recommends the following treatment: After thoroughly cleansing the diseased parts with soap and water, and then drying, the edges of the nail are covered with one or two layers of tin-foil. The strips of tin-foil are held in position by a thin layer of yellow wax, care being taken to place the strips on all places where the nail is in contact with the flesh. This packing need only be renewed two or three times during the first few weeks, the procedure being simple, painless, and easily carried out by the patient.—*International Journal of Surgery.*

CHOLERA IN PERSIA.—A correspondent of the *Bulletin Medical*, writing from Teheran, says that cholera in a virulent form exists throughout the valley of the Euphrates, and it is feared that it will become epidemic in Persia.

# THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

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## THE ABOLITION OF THE TITLE OF DOCTOR.

COUNTING the druggists, corn-doctors, horse-doctors, dentists, chemists, clergymen, and philosophers, the number of persons not physicians who receive and are addressed by the title of doctor (or "doc") must nearly or quite equal that of the medical profession.

The title is therefore not a distinguishing one, nor does it carry with it any especial respect, call forth any peculiar deference, or add ordinarily to one's social advantages. The number of "docs" and doctors in this country is enormous and burdensome. The name is sounded in the ear at every corner, and in every form or kind of gathering. The citizen goes to Dr. A for his preaching, to Dr. B for his teeth, to Dr. C for his horse, and to Dr. D for his corns, while his wife goes to Dr. E for her nails and to Dr. F for her malaria; and the result is that the average family of modern New York lives in a delirium of "docs" and doctors, who are continually engaged in the patchwork of the body or soul.

The question occasionally arises, and is seriously discussed, whether it is not time for self-respecting physicians to consider the propriety of dropping the title of "doctor" in their intercourse with their fellows altogether, and leave it to the dentists, the veterinarians, and philosophers. This title is not used by English surgeons, and they seem to be not the worse in reputation or less skilful and successful in practice.

There was a time when a special title, a peculiar costume, and an affected air and deportment were essential to the physician. Without their "cassocks and mules, they could not have duped the world," said Pascal. Now people are beginning to depend on physicians because they have learning and experience and skill; not because of their deportment or pretensions. We say they are beginning to do so; and we are forced to confess that it is only a beginning.

But the magic of the name of "doctor" has long gone; it is as non-distinctive, weak, and effacive as that of a "colonel" in Kentucky, or a "corporal" in Hayti. It simply identifies a man in a crowd as being one of two hundred thousand "docs" and doctors who are diffused through the land.

The time will come, and is coming, when medical men will be glad to stand on the same plane as other professions and classes, and be before the world plain "Mr.," a title which is considered good enough for the President of the United States.

Some day there will be founded, we trust, a Society for the Abolition of the Title of Doctor, and of the slavery of learned gentlemen to that most noxious of invocatives, "Doc."

## THE GARTER AND VARICOSE VEINS.

JUST as the garter has begun again to become an *objet de luxe* and to receive the thought and inspiration of artistic minds, the sanitarian has put his foot down and said that the garter is a source of disease. By constricting the limb it impedes the flow of venous blood and leads to the production of varicose veins, œdematous ankles, and other morbid conditions. Such has been the view taken at a recent discussion of the subject by English physicians. We fancy that the garter, like many others of the things of this life, may be a thing of beauty, or of evil; it may adorn loveliness, circumscribe angelic outlines, and support comfortably and artistically and healthfully the superior circumference of knit goods; or it may constrict, asphyxiate, and puff up sound and symmetrical limbs into varicose and variegated ugliness. Those who have seen dispensary service can recall the heavy Irish ladies who sit down and laboriously untie the tight string or dirty rag which holds up the stocking, and expose the varicose ulcer, rich in excretions and blushing phlegmonously over its state. This represents, no doubt, the worst phase of the garter, and the class of cases in which it may do harm.

But, as a rule, the garter is a source of no disease. Varicose veins occur oftener in men than in women, and proportionately oftener in athletes and men trained to severe exertion. There are many things, indeed, which cause them, and artificial constriction of the limbs seems to be a very remote and rare factor. In England we are told that the demand for "anti-varicose" stockings is chiefly made by full-fed men who lead sedentary lives and drink more wine than is good for them. A wearer of the anti-varicose stocking feels worse after a series of dinner-parties, when the tempting varieties of the *menu* lead him to indulge too freely in the pleasures of the palate.

Obviously, no very bad case can be made out against the garter, provided it is a good garter, combining the maximum of support with the minimun of constriction, blending harmoniously with the hosiery and the circulation. The garter has come to stay; and the doctor had better prescribe a proper kind than preach its abolition.

## OUR STATE INSANE.

IT is understood that at the next meeting of the State Legislature another effort will be made to pass a law requiring all county insane, except those of New York and Kings, to be sent to State institutions.

The care of pauper insane by the counties, though much better than it used to be, is still in many cases inhuman and disgraceful.

In most of the poor-houses where the unfortunates are kept the expense averages but twenty cents a day, while in one county it has been reduced to eighteen cents.

The plan of transporting the insane to large and properly equipped hospitals, under the care of experienced medical officers, is endorsed by all who have investigated the subject impartially, and is only opposed by a clique of

politicians who use the county institutions as "spoils," and desire to make as much out of them as possible.

It would be more just and wise, and eventually more economical, to erect such new State asylums as might be needed, and have the pauper insane of the counties transferred to them.

The only objection to this plan that can be made is that there would be waste and extravagance in putting up these new buildings. This is unfortunately a valid objection, but not by any means an insurmountable one.

### AT IT AGAIN.

OUR talented townsman, Dr. W. P. Northrup, appears again in the rôle of contributor to *Scribner's*. In the Christmas number just issued is an interesting and graphically told story of the habits and religious customs of the Bretons. The pardon of Ste. Anne d'Auray is the suggestive title to the sketches, which are handled with rare skill and judgment. The conception centred upon a summer vacation in Brittany and a psychological study of a very curious people. It is well worth reading. It shows how a medical man can spend his vacation with pleasure to himself and profit to his readers.

### SPECIAL HOSPITALS FOR PHTHISIS.

THE recognition of the contagiousness of phthisis, and of the importance of prophylaxis in connection with this disease, has given rise to an active discussion regarding the advisability of having separate hospitals for phthisical patients. The matter is being agitated especially in Berlin, and, no doubt, there will soon be some practical outcome. It is desirable not to alarm unduly the public on this matter; for phthisis is not very contagious and is, indeed, practically non-transmissible to those who have not the proper soil. But it would be advisable, for many reasons outside the contagiousness of the disease, to have these special hospitals. The treatment of phthisis, if properly carried out, requires much attention and skill, and the employment often of special apparatus.

Such special treatment could be much better given if the cases were placed together, either in a single hospital or separate wards. City hospitals, in particular, could deal better with phthisis if they had country branches to which curable cases could be sent.

### HEIGHT AND WEIGHT IN THEIR RELATION TO HEALTH.

THE body weight of adult men ranges from 60 to 70 kilogrammes, according to Quetelet. Krause gives a mean of 64 kilos., Beneke, of 63.074, and Busch, of 65.1. For women the range is 52 to 56; and the mean for men according to Vierordt is 65, for women 55, kilos. The average height of young American students of the age of twenty-three years, as determined by measurements of Dr. H. Gihon, is 172 centimetres (68.+ inches).

The weight at this age was 61.2 kilos. (140 lbs.), while the weight at this age, as determined by Quetelet, was 64.5 for men and 55.2 for women.

Bernhardt established the following formula: Assuming H to equal the body height, C the circumference of the chest at the mammary line, and W the body weight, then for an average constitution $W = \frac{H \times C}{2 \cdot 4 \cdot 0}$. When the denominator falls to 209.76, the individual has a feeble constitution; when it reaches 256.8, it indicates a very robust constitution.

It has also been determined that there is a relation between body weight and height which undergoes certain definite laws. The weight reaches its greatest amount at about the fortieth year, and then sinks as old age comes on.

The greatest height is reached at the age of about thirty; then there is a slight decrease, which in old age may amount to 6 or 7 centimetres.

The height and weight of man are, according to Quetelet,

| At | Height. | Weight. |
|---|---|---|
| 30th year | 172.2 | 68.90 |
| 40th " | 171.3 | 68.81 |
| 50th " | 167.4 | 67.45 |
| 60th " | 163.9 | 65.50 |
| 70th " | 162.3 | 63.03 |

We give the foregoing figures in connection with some recent observations upon weight, height, and disease made by Dr. J. Foster Bush, medical examiner for the American Legion of Honor. In his report for the years 1887 to 1889 he analyzes the mortality statistics of that period, including 1,464 deaths. He gives tables showing the height, weight, and cause of death. He finds that in phthisis, cancer, apoplexy, and renal disease, there was a very large proportion above or below the average of weight to height, and that not more than two or three per cent. hit the mean. In apoplexy, cancer, cardiac, and renal diseases, the greater number were above the average of weight to height; in phthisis the greater number were below.

Gihon's tables show that in a given number of healthy young men about one-fourth are of mean height and weight, while about five per cent. are above or below what is taken as a normal range.

The figures given by Dr. Bush are not of very great value, for he does not state how much above or below the average his cases were, and it is admitted that there is a normal range. They do call attention, however, to the fact that a wide departure from a normal average in the mean height and weight indicates, as a rule, a defective constitution. Physicians would do well, therefore, to make themselves familiar with the physical measurements of their patients.

According to Gihon's table, the height of students at twenty-three is 172 ctm. (66 in.), the weight 63.5 kilos. (140 lbs.)

The mean height of 1,486,039 adults, mostly recruits and soldiers, was 172.08 kilos. (67.75 in.); the average weight of 32,584 adults was 64.55 kilos. (142.30 lbs.); the average chest-girth 87.68 ctm. (34.52 in.). This would indicate for the American constitution, according to Bernhardt's formula, the following:

$$64.55 = \frac{172.08 \times 87.6}{2\,3\,4}$$

which places the male constitution of this country rather below par average.

A NURSE DIES BY AN ETHER EXPLOSION.—At a private hospital in this city, conducted by Dr. W. Tod Helmuth, a nurse lost her life by an explosion of sulphuric ether. She was in the act of pouring ether from one bottle to another, and is supposed to have been too near to a gas-light. Fatal burns were the result of the accident, followed by death about forty-eight hours later.

## News of the Week.

Dr. Florence O. Donohue, of Syracuse, N. Y., who was recently appointed a member of the local Board of Health by Mayor Kirk, received yesterday a commission naming him a member of the State Board of Health.

Trephining for General Paralysis.—Dr. T. Claye Shaw reports a case of advanced general paralysis, in which all the mental symptoms disappeared after trephining and opening the dura mater.—*British Medical Journal.*

England Contributes to the Pasteur Institute.—At a meeting of the Pasteur Institute Fund, held in London recently, it was unanimously resolved to transmit to M. Pasteur the sum of 40,000 frs., on behalf of the Institute, as a grateful acknowledgment of the services rendered by him to English patients.

Cincinnati has a new hospital, called Christ's Hospital.

An Epidemic of Influenza in Russia.—The daily papers announce that St. Petersburg is suffering from a curious epidemic of influenza. Practically everybody, from palaces to the lowest hovels, catches this disease, which lasts three or four days and causes great annoyance. Over forty thousand cases have already been medically reported in St. Petersburg alone, with the result that many mills and factories have had to close, and it is difficult to get cabs on the streets. The malady is now reported as appearing in Moscow and in far Siberia, and everybody is depressed over the unaccountable thing.

Cremation in Paris.—The cremation furnace in Père-la-Chaise Cemetery, in Paris, is now complete, and the Prefect of the Seine has approved the scale of charge to be enforced thereat. The charge for the use of the cremation furnace is to be 50 francs, which sum includes the keeping in the columbarium of the funeral urn containing the ashes for a period of five years.

Shocking Death of a Vienna Physician.—Quite a gloom has been cast over Vienna medical circles by the death of a young pathologist in the General Hospital here. Two months ago a patient died in the hospital of glanders caught from a horse, and Drs. Rowalski and Hoffmann subjected the body to experimental observations.. The bacillus of glanders was readily discovered, reared, and its behavior closely watched. The animals injected with it died of the horrible malady. During these observations Dr. Hoffmann caught cold and felt acute pains in his side, to allay which he injected morphia. He did this with the syringe he had used during the glanders experiments. Although it had been disinfected, some particles of the poison must have still been in it, for Dr. Hoffmann grew worse every day, and last week he succumbed in horrible agony, his body being covered with ulcers, which, when examined, proved to be filled with the glanders poison.—*Medical Press.*

Professional Cards in Newspapers.—The *Southern California Practitioner* says: "The convenience of having one's professional card in the daily paper cannot be denied; it enables the regular patients to tell when they may find you at your office. It informs them of the number of your telephone, both at office and residence; and the column also furnishes an index of practising physicians for the stranger. But a great deal of unfairness is connected with the present system. In this city, at least, the daily papers have no classification; regulars, homœopaths, and quacks all come in the same list. It would be a very easy matter, by referring to the official register, to put the legal regular physicians under one heading, the legal homœopaths and legal eclectics either before or after the regulars, and then illegal practitioners in a place by themselves. As it is now it is a game in which only the honest doctors lose; the barnacles of all the 'pathies hope to gain custom by sandwiching their cards in among those of the legal physicians. We suggest as a cure that regular physicians cease to advertise in the daily press."

Threatened Strike among Medical Men.—It is not often we are troubled with a threatened "strike" in the medical profession, but from the feeling present among the district medical officers of Moravia and Bohemia such a phenomenon is imminent, as they consider the fees and salaries, as well as the present stringency of the sanitary laws, inadequate and intolerable. Petitions signed by every medical officer have been forwarded to the provincial diets praying for redress. The result is awaited with much anxiety and suspense.—*Medical Press.*

Albuminous Food in Bright's Disease.—Senator and Semmola have both agreed that albuminous food should not be given to invalids suffering from Bright's disease. Dr. Schreiber has been devoting his attention to this subject experimentally, and now concludes that a rich diet of white of egg, raw, mixed with other nitrogenous food stuffs, has no effect on the urine either in the healthy subject or the one afflicted with Bright's disease. On the contrary, he finds that when the albumin is given in solid form it checks the amount of albumin secreted in Bright's disease. He quotes two cases of Leyden's in support of this view, as well as a case of Semmola's, where albuminous diet was prescribed and *no* increase of the albuminous secretion was observed.

Parisian Physicians on Show.—An American surgeon, visiting the Parisian hospitals, writes: "The fact that hospitals have their clinics and shows at eight or nine o'clock in the morning makes the effort to attend bad for lazy people. Fortunately I am located near that model of hospital structure, the new Hôtel-Dieu, and most of my sight-seeing has been there. R——, the crack surgeon, is getting old, and shows much shining pate. I never saw a man examine a case more thoroughly. Jolly little K——, him of speculum fame, I believe, handles women in a way that would excite execration at home, and which I can't believe is proper anywhere. To expose women from their feet to their breasts, without the comforting pretence of a sheet, and to punch their abdomens as if he were going to dig the uteri out through the walls, is not the way to make the examination chair a joy and delight. I saw one young woman of some personal attractions, and who seemed to have some modesty left, although she was a low-class Frenchwoman, tremble as if in ague during the ordeal, and shriek with pain when he forced his very short forefinger up to the cervix as if he intended to carry all before him."

THE TWENTIETH ANNIVERSARY OF THE NORTHWESTERN MEDICAL AND SURGICAL SOCIETY was celebrated by a large reception of ladies and gentlemen, on Wednesday evening, November 27th, at the house of Dr. T. H. Burchard, No. 7 East Forty-eighth Street. About one hundred guests accepted the invitation of the Society, among whom were lawyers, clergymen, and physicians with their wives. A fine musical programme was rendered by well-known artists, and by members of the Society. The guests were received by the officers and their wives. Such social episodes vary the monotony of scientific work in a medical society; and when properly managed these gatherings bespeak a healthy life and tone to medical bodies. The officers of this Society are: President, Dr. A. M. Jacobus; Vice-President, Dr. S. Baruch; Secretary, Dr. E. S. Peck.

DIAGNOSTIC VALUE OF THE SALOL TEST IN MOTOR INSUFFICIENCY OF THE STOMACH.—We recently referred to this test as being one of value in determining the motor activity of the stomach and the absorptive power of the intestines. Dr. J. Decker, of Münich, now comes forward (*Berlin Klin. Woch.*) and denies its value. From his clinical tests he finds that in healthy stomachs the time of reaction may be delayed as much as in disease.

THE KING OF PORTUGAL, who recently died at the age of fifty-two, was an extremely interesting case. He had suffered from diabetes for a long time. Two years ago he developed a large lymphoma on the shoulder. Later he had symptoms of myelitis, and finally a curious skin affection, diagnosticated by Professor Neumann as multiple gangrene. Professor Neumann received a fee of $20,000 for his diagnosis. The King had eleven physicians in attendance on him at the time of his death.

THE FIRST CONGRESS OF POLISH SURGEONS was held at Cracow on October 16th and 17th, under the presidency of Professor Rydygier.

THE EIGHTH CONGRESS OF RUSSIAN NATURALISTS AND PHYSICIANS will be held at St. Petersburg from December 27, 1889, to January 7, 1890. It will consist of eleven sections, two of which are devoted to "scientific medicine" and "scientific hygiene," respectively.

SACCHARIN.—The importation of saccharin has been for some time forbidden by France, Spain, and Portugal; Italy and Hungary have now followed the example of these countries. In Belgium a duty of 140 francs a kilogramme is levied, not only on saccharin, but on all products containing more than fifty per cent. of it. In Holland a duty of 60 florins a kilogramme will probably soon be imposed on saccharin.

"HYGIEA'S" HALF CENTURY.—Our esteemed contemporary *Hygiea*, of Stockholm, celebrates the completion of its first half-century in a magnificent number of nearly six hundred pages, containing eighteen papers in Swedish, French, and German, many of them illustrated by fine lithographic plates. The journal was founded in 1839, the first number having appeared in April of that year. The secret of our contemporary's success and long life is revealed in the frontispiece, wherein are presented the portraits of the editors in chief of the journal since its foundation. We congratulate *Hygiea*, and wish it many more semi-centennials.

# Obituary.

## PROFESSOR RICHARD VON VOLKMANN,

HALLE, GERMANY.

RICHARD VON VOLKMANN was born August 17, 1830, at Leipsic, where his father, Alfred William Volkmann, was Professor of Physiology. From Leipsic Professor Volkmann went to Dorpat, but returned in 1843 to Germany, and became Professor of Physiology at Halle. In 1850 Richard commenced the study of medicine at Halle, went afterward to Giessen, and finished his studies at Berlin under the celebrated surgeon von Langenbeck. In 1857 he settled at Halle and became an assistant in the Surgical Clinic under Professor Blasius. After the death of that surgeon, he became (1867) Professor of Surgery and Director of the Surgical Klinik, which positions he held at the time of his death.

In 1866 he served as surgeon in the Prussian Army, in the war with Austria, and in 1870–71, in the war with France, he was Surgeon-General of the Fourth Corps d'Armée. During this campaign, in his leisure hours of camp-life, he wrote his celebrated "Reveries at French Hearths," under the *nom de plume* Richard Leander, and these musings of the great surgeon will always occupy a prominent place among the works of German poets.

Volkmann introduced Lister's antisepsis in Germany, and followed it in all its details with excellent results; he was an indefatigable worker with the knife and the pen, and his name will always shine as a brilliant star among the surgeons of all nations. His "Beiträge zur Chirurgie" belong to the classical medical literature. Since 1870 he published "Sammlung Klinischer Vorträge." He is the author of numerous monographs on surgical subjects, and was engaged at the time of his death writing a monograph on carcinoma. His investigations of diseases of joints have thrown new light on this subject, and there is probably no better authority on "tuberculosis" than he was.

On Langenbeck's retirement the chair of surgery at Berlin was offered to Volkmann, but he preferred to remain at Halle, where he died on December 1st.

In recognition of his eminent services, Emperor William bestowed in 1885 the rank of a nobleman on Volkmann. Although broken down in health for several years, his death was rather unexpected.

## WALTER DE FOREST DAY, M.D.,

NEW YORK.

DR. WALTER DE FOREST DAY, for many years Sanitary Superintendent of the Board of Health, died at his residence, in this city, on November 27th. Although he had been suffering from an incurable illness since May last, his death was sudden. Dr. Day was born, in 1835, in Catskill, N. Y. He was graduated from Williams College in 1859, and soon after began the study of medicine in this city, under the late Dr. Willard Parker. He was graduated in medicine from the College of Physicians and Surgeons in 1863, but two years earlier he entered the military service of the United States as a medical cadet, and immediately after the battle of Bull Run converted the Methodist church in Alexandria, Va., into a hospital for the treatment of the wounded.

The efficiency with which he did this work gained for him the task of organizing the hospital service for the Army of the Potomac. The proficiency he displayed in this field attracted the attention of Professor Charles F. Chandler, who, when he was made President of the Board of Health of this city in 1873, selected Dr. Day as the best-equipped man for Sanitary Superintendent. He filled the Chair of Materia Medica and Botany in the College of Pharmacy for twenty-one years, and was for ten years clinical assistant to the Professor of the Practice of Medicine of the College of Physicians and Surgeons. He was also connected, from time to time, with various hospitals and dispensaries, and a member of several medical societies.

# Society Reports.

## SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

*Secona Annual Meeting, held in Nashville, Tenn., November 12, 13, and 14, 1889.*

(Continued from p. 613.)

SECOND DAY, WEDNESDAY, NOVEMBER 13TH — AFTERNOON SESSION.

THE papers of Drs. Davis and Brockaw were discussed by Drs. W. O. Roberts, Virgil O. Hardon, B. E. Hadra, A. M. Owen, Hunter McGuire, W. W. Potter, R. S. Cunningham, G. Frank Lydston, Richard Douglas, George J. Engelmann, W. E. B. Davis, and discussion closed by the essayists.

DR. B. E. HADRA, of Galveston, Tenn., read a paper entitled

### THE OPEN ABDOMINAL TREATMENT,

in which he said that abdominal surgery, notwithstanding its immense progress, has not as yet given even a moderate degree of satisfaction in acute diffuse septic peritonitis. Chronic infectious processes offer much better prospects for surgical interference, such as tuberculosis, actinomycosis, and the recently described microbic peritonitis, of as yet unknown origin.

The points making the diffuse septic peritonitis are: 1. The extensive area of peritoneal surface. with its enormous power of resorption of the poisonous fluid. 2. The active secretion into the sac, and thereby furnishing cultivating fluids for the germs. 3. The ready absorption by the lymphatics of the diaphragm. 4. General distribution of the poison by intestinal peristalsis. 5. The infection of the intestinal walls from without, and the additional infection of the peritoneal cavity by transudation and immigration of germs from the inside of the bowels. 6. Distention of the bowels, increasing the pressure and resorption. 7. The impeding effect of this latter condition upon respiration, defecation, and secretion of urine, leading to systemic poisoning by retained products of oxidization. 8. In perforative cases the contamination by fecal matter; in stab and gunshot wounds by other impurities, bile, urine, etc., and, above all, contaminated blood.

The indications for treatment, besides supporting the patient's strength, relieving suffering, giving proper action to the bowels, kidneys—in short, besides the general medical treatment—are: 1. To remove the obnoxious material—germs, fecal matter, and urine. 2. To prevent its new formation or a repetition of its entrance. The sac should be kept dry to deprive the germ of its soil. The breaks have to be mended, so that the channels of contamination may not lead to the outside. 3. To prevent the bowels from distributing the poison throughout the whole cavity. 4. To counteract pressure and suction, in order to prevent resorption of the poison. 5. To prevent infection of the peritoneum and the bowel. 6. To relieve pressure, in order to avoid disintegration and paralysis of the different structures. 7. To free respiration, defecation, and urination with tympanites as developed.

DR. L. S. MCMURTRY, of Danville, Ky., read a paper on

### TWENTY CONSECUTIVE CASES OF ABDOMINAL SECTION.

The series of cases comprised the first twenty abdominal sections performed by him, and illustrated a variety of pathological conditions and diverse complications. All the cases were in private practice, and, with two exceptions, all the operations were done at the homes of the patients. Two cases were treated as private patients in a well-appointed hospital. In many cases operative treatment was only accepted after all ordinary and so-called conservative measures had been exhausted; and in several cases the operation was only accepted when the patient's condition was regarded hopeless by physician and family. In no case, however desperate or complicated, was an operation refused. In the twenty cases there were three deaths.

The difficulties attending the diagnosis of intra-abdominal disease are well illustrated. One case of tubercular peritonitis and encysted dropsy was diagnosed by four different surgeons, before he saw the patient, as ovarian cyst. The history and physical signs were characteristic of that condition. On opening the abdomen it was found to be encysted dropsy, the result of tubercular peritonitis. Evacuation and irrigation were followed by quick recovery, and, though the peritoneum was studded everywhere with miliary tubercles, and the patient now sixty-eight years of age, she remains to-day in perfect health and activity.

A case of uterine myoma (Case No. 15) was also believed to be an ovarian cyst. The tumor was very soft; it was, besides, heavily œdematous, and fluctuated distinctly. The history and general condition of the patient tallied with deceptive diagnosis. It was only when the abdomen was opened that he had realized he was to do a supravaginal hysterectomy instead of an ovariotomy. Seven of the cases recorded were ovariotomies. The cysts were in every instance large, and had, with two exceptions, been tapped several times. One was a suppurating cyst. The only death he had to record is Case No. 16, an ovarian cyst. The operation was done in a remote part of the State, and without the essentials for protection from sepsis.

Dr. McMurtry said thorough work, irrigation, and drainage, all conjoined, give the only basis of success in the cases reported. In a number of his cases he had operated in the midst of active peritonitis, with vomiting and tympanites. In this condition of affairs he had witnessed the most gratifying results from persistent and oft-repeated exhibition of calomel, dropping two or three grains on the tongue every hour until the bowels were freely moved. Increasing experience has impressed him more and more with the difficulties of abdominal work, and makes him less confident of meeting often with simple cases.

He closed his paper with a plea for earlier interference in abdominal diseases. When operations are done in good time, before emaciation and exhaustion come, and before repeated attacks of peritonitis have complicated the comparatively easy task for the surgeon, then will the surgeon's results excel even the brilliant records of the present time.

DR. RICHARD DOUGLAS, of Nashville, Tenn., read a paper entitled

### COMPLICATIONS OCCURRING IN THE CLINICAL HISTORY OF OVARIAN TUMORS.

The papers of Drs. Hadra, McMurtry, and Douglas were discussed at length by Drs. Potter, Roberts, Stone, Wathen, Engelmann, Hardon, Haggard, Lydston, Cunningham, Brownrigg, W. E. B. Davis, and discussion closed by the essayists.

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EVENING SESSION.

DR. G. FRANK LYDSTON, of Chicago, Ill., read a paper on

### TROPHO-NEUROSIS AS A FACTOR IN THE PHENOMENA OF SYPHILIS,

in which he called attention to the relation of disturbances of the trophic function of the sympathetic nervous system, which the author claimed were the essence of all the phenomena of syphilis. He said: The relations of certain syphilitic phenomena to organic or functional disturbances of the nervous system, and particularly the sympathetic system, are manifested here and there along the whole line of morbid phenomena developed in the course of the disease. Syphilitic fever is undoubtedly dependent upon the action of a special poison upon the sympathetic nervous system. From what we know of the trophic functions of the sympathetic, we are justified in inferring that the majority

of fevers are dependent upon the action of a specific poison upon the sympathetic ganglia. The syphilitic poison may produce disturbances of the sympathetic, with perversion of tissue-metabolism and excessive production of heat. The inconstancy of the syphilitic fever is explicable upon the ground of idiosyncrasy. The syphilitic roseola has been demonstrated to be an exception to the rule that syphilitic lesions are due to a collection of proliferating cells. It is due to vaso-motor disturbance, with resulting dilatation of capillaries. This nervous disturbance is dependent upon the impression of the syphilitic poison upon the sympathetic ganglia. The accumulation of cells in the more pronounced lesions of syphilis is simply an exaggeration of the normal process of tissue-building. As is well known, such tissue-building is presided over by the filament of the sympathetic nerves.

The symmetry of the peripheral phenomena of syphilis is suggestive of some casual condition affecting the central nervous system. As an illustration of the manner in which a nerve-lesion could produce disturbed nutrition, the author mentioned herpes zoster. Some of the lesions of syphilis which are difficult of explanation upon mechanical grounds, *i.e.*, upon the theory of localized cell accumulation, are readily explicable by central or local nervous disturbance. For example, the alopecia of syphilis is similar to that which occurs in other diseases as a consequence of local and general malnutrition incidental to disturbed nervous supply—as, for instance, alopecia areata, the alopecia produced by fevers, and the alopecia produced by neuralgic affections of the head. That the nutrition of the hair is profoundly affected by nervous disturbances, is shown by the result of fright in producing blanching of the hair.

One of the principal arguments in favor of the theory that tropho-neurosis is the foundation of syphilitic processes is the peculiar action of the disease when it attacks certain parts, syphilis seemingly possessing the power of dissecting out definite portions of osseous tissue (apparently by cutting off their nutritive supply) in a manner as cleanly as it can be done by the knife. Thus the speaker has in his possession specimens of the intermaxillary bone, portions of the alveolar process of the maxilla, the palatal and nasal processes of the superior maxilla, the malar and ossæ nasi which became necrosed and were removed from cases of late syphilis. These fragments present as natural a conformation as in their healthy condition. The ordinary explanation of destruction by pressure of syphilitic exudate will not suffice in these cases. If they be observed carefully, it will be found that the first symptoms experienced by the patient are those identical to the presence of a foreign body, *i.e.*, dead bone in the tissues. If pressure were the cause of the necrosis, the death of the bone would be preceded by more or less painful swelling and inflammation.

He claimed that all of the pathological processes incidental to syphilis are due to disturbances of nutrition produced by the impression of the syphilitic poison upon the sympathetic nervous system, and that it is immaterial to the cogency of this theory whether the poison of syphilis be a microbe, bacillus, degraded cell, or chemical poison. If any attempt has been made to show that tropho-neurosis is the basis of all syphilitic phenomena, the author is not aware of it.

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THIRD DAY, THURSDAY, NOVEMBER 14TH—MORNING SESSION.

DR. JOHN BROWNRIGG, of Columbus, Miss., read a paper on

GUNSHOT FRACTURES OF THE FEMUR,

in which he discussed the class of cases requiring amputation, and those in which a more conservative course should be pursued. He exhibited several appliances devised by himself.

DR. HUNTER MCGUIRE, of Richmond, Va., read a paper on

THE TREATMENT OF CYSTITIS IN WOMEN,

which was followed by a paper on

THE TREATMENT OF CONTRACTED BLADDER BY HOT-WATER DILATATION,

by DR. I. S. STONE, of Lincoln, Va.

During the past few years certain protracted cases of cystitis, occurring chiefly in women, have been observed by Dr. Stone, which have resisted all known forms of medical treatment, and necessitated some surgical or mechanical measure of relief.

He describes the manner of dilatation as follows: The patient is given morphia sulphas (gr. $\frac{1}{4}$), atropia sul. (gr. $\frac{1}{150}$), hypodermically. She is placed on her back on a table for convenience (although it would answer to arrange the bed with the patient thereon to suit the operator). A soft catheter is at once inserted into the bladder, and after the urine has escaped hot water (temperature 110, °F.) is thrown into the bladder, until the patient will no longer bear it. This is allowed to escape, and is measured, giving the full size of the bladder in its present condition. As the morphia gradually becomes absorbed, the patient will bear still further distention—each time perhaps one drachm may be added to the capacity of the bladder. I prefer using a rubber ball-syringe, holding two to four ounces. The pressure of the hand is safer than that of the tube or funnel, or any instrumental gauge, as the patient generally is unable to resist the tendency to strain, owing to tenesmus produced by the expansion. As each séance should continue thirty to sixty minutes, the bladder may be filled and emptied many times, and at first the operator must be well satisfied if the gain is only one or two drachms, in a bladder whose capacity is perhaps only two ounces. As the patient becomes fully under the influence of the morphia, the water may be increased in temperature to 120° or 125° F. The very best effect follows its use when at this temperature.

These papers were discussed by Drs. Lydston, Davis, Engelmann, Roberts, Brokaw, Hadra, and closed by the essayists.

DR. BEDFORD BROWN, of Alexandria, Va., read a paper entitled

REMARKS ON OBSCURE AND MINOR FORMS OF PELVIC CELLULITIS SIMULATING MALARIAL FEVER.

By referring to his note-books he found some twelve cases of pelvic cellulitis, some of a grave and others of a minor form, but all so very obscure in their manifestation of the presence of local lesion as to be well calculated to mislead, and to cause a mistaken or false diagnosis to be made of malarial fever. There was nothing in these cases to call the attention to the pelvic organs. He has in a number of instances seen these cases run their course from beginning to end without manifesting the first symptoms of local disease in the pelvis, so that the resemblance to malarial fever was very nearly complete.

DR. JOSEPH TABER JOHNSON, of Washington, D. C., presented a paper entitled

OBSERVATIONS BASED UPON AN EXPERIENCE OF SEVENTY-TWO MISCELLANEOUS ABDOMINAL SECTIONS.

Of this number 29 were for the removal of ovarian tumors varying in size from one to sixty-four pounds, 26 recoveries, and 3 deaths; 29 cases of removal of the uterine appendages, with 27 recoveries, and 2 deaths; 7 supravaginal hysterectomies for large uterine fibroids, with 3 recoveries, and 4 deaths; 1 Cæsarean section, death on the tenth day; 1 cyst of the kidney, weighing seventy-four pounds, died of exhaustion; 1 fatal case of extra-uterine pregnancy, operated on six weeks after rupture, general peritonitis, with pulse 130, temperature 103° F. for the week previous; a fatal case of general abdominal cancer; 3 exploratory incisions, all recovered. Total, 72 laparotomies, with 59 recoveries, and 13 deaths.

Of the 53 ovarian operations, the first 3 deaths were the second, third, and fifth of his series. In the last 52 ovarian operations there have been only two deaths; one of these was from tetanus occurring on the fifteenth day after operation, when everything indicated a perfect recovery. The other was an insane patient who had been four years in an insane asylum on account of nymphomania. She could not be entirely controlled, and her efforts to get out of bed set up inflammation about the abdominal sutures, causing an abscess which burst internally and caused death.

DR. JOHNSON emphasized the statement that experience in operating was nowhere so valuable as in the abdominal cavity; that the "unexpected" was so often found, that many cases would be lost if the operator was not prepared for and equal to the emergencies as they "unexpectedly" arose.

The following papers were read by title: 1. "Puerperal Eclampsia," by John Herbert Claiborne, Petersburg, Va. 2. "Laparotomy in Intestinal Obstruction," by Cornelius Kollock, A.M., M.D., Cheraw, S. C. 3. "The Causes of Frequent Failure of Relief of Reflex Symptoms after Trachelorrhaphy," by W. F. Hyer, M.D., Meridian, Miss.

The following officers were elected: *President*—Dr. George J. Engelmann, of St. Louis, Mo.; *First Vice-President*—Dr. B. E. Hadra, of Galveston, Tenn.; *Second Vice-President*—Dr. Duncan Eve, of Nashville, Tenn.; *Secretary*—Dr. W. E. B. Davis, of Birmingham, Ala.; *Treasurer*—Dr. Hardin P. Cochrane, of Birmingham, Ala.

On motion, the Association adjourned to meet in Atlanta, Ga., the second Tuesday in November, 1890.

## NEW JERSEY SANITARY ASSOCIATION.

*Fifteenth Annual Meeting, held at the State House, Trenton, N. J., November 22 and 23, 1889.*

FRIDAY, NOVEMBER 22D—FIRST DAY.

AFTER an address of welcome by Dr. Wetherill, chairman of the local Association, C. PHILLIPS BASSETT, of Newark, read a paper on the

EAST ORANGE SEWAGE-DISPOSAL WORKS

as compared with other methods. The question of sewage-disposal occupied serious attention from 1883 to 1886, as no system of sewage-application had been constructed in this country at all applicable to the conditions found in East Orange; viz., small available area of land in the midst of a dense suburban population, and a high degree of chemical purity in the effluent from the works, which had to be turned into a small stream tributary to the Passaic, close to the Newark and Jersey City water-supply intakes. No other works have been constructed in this country at all competent to meet such conditions, a claim which was confirmed in discussion by other members.

G. W. HOWELL presented a report on the

PASSAIC RIVER DRAINAGE.

The river drains an area of eight hundred and thirty-three square miles, with thirteen thousand acres liable to be overflowed for four or five days at a time, owing to the smallness of the fall of the stream. Dr. George H. Cook in his lifetime devised a system to remedy this, which is now in process of application. The Association adopted a memorial to the memory of Dr. Cook.

THE IMPROVEMENT OF SANITARY CONDITIONS IN THE HEALTH AND PLEASURE RESORTS OF NEW JERSEY

was the theme discussed by DR. HENRY MITCHELL, of Asbury Park. Dr. Mitchell says the summer-resort business of New Jersey has reached the dimensions of one of the great industries of that commonwealth, so that enlightened regard for self-interest demands the adoption of the best possible sanitary measures; yet in many cases they were entirely disregarded, as in the case of a "sanitarium" now building, with several beautiful cottages, and a hotel to cost $100,000, but without sewers or a public water-supply. He recommended increased powers of the State Board, and publication of local shortcomings, to arouse neglectful communities.

The paper on

THE CLIMATIC TREATMENT OF GASTRO-INTESTINAL DISEASES IN CHILDREN,

by DR. BOARDMAN REED, of Atlantic City, was read by Secretary English. The question why a change of air effects such striking remedial results has never been satisfactorily answered; but it is probable that there are ingredients peculiar to the atmosphere of every locality that have a tonic effect at first, but later, like too long a course of quinine, they cease to stimulate. The best treatment of graver forms of summer complaint is the preventive one, and the best prevention is removal from large cities before the hot season begins.

A paper on

THE NEED OF MEDICAL OFFICERS FOR SCHOOL-DISTRICTS

was read by DR. G. F. WILBUR, of Asbury Park. Stress was laid on purity of water-supply; on the arrangement of light for rooms; on attention to thorough personal comfort of children in position, support of limbs, etc.; on dryness of the site selected for school-buildings; on heating and ventilation of buildings, and on direction of the exercise of students. He recommended that schools be under direct and constant medical supervision.

The annual address of the President, DR. DOWLING BENJAMIN, on Friday evening, was on

THE THERMOMETRY OF HYGIENE.

He said the tendency to frequent colds and the progress of civilization is to render the human race more feeble; so that every nation which has attained a high summit of civilization has fallen into decay, and we can hardly hope to be an exception. The question, "What is a cold?" is hard to answer, but we can describe the conditions which indicate it; namely, inflammation and congestion of mucous membranes of mouth, nose, etc. He reviewed the etiology of colds, which are oftenest taken in the house, and made practical suggestions as to methods of ventilation, which should never be allowed in winter from a cold, open window. He condemned the ventilation of the State House, where they were meeting, animadverting on the misplaced foul-air registers near the ceiling, whereas they should be below. He concluded by congratulating the Association on the beneficent result to the community of their labors, notwithstanding that sanitary science is not yet generally appreciated.

JAMES M. GREEN, president of the State Normal School, read a paper on

PHYSICAL CULTURE IN ITS HYGIENIC RELATIONS.

Mind is a function of brain; its strength therefore is proportionate to development of the brain; and the symmetrical development of the brain depends on that of the body.

SATURDAY, NOVEMBER 23D—SECOND DAY.

A paper on

THE RELATION OF CONDUITS TO THE HEALTHFULNESS OF WATER

was read by DR. W. K. NEWTON, of Paterson. Discussing in detail the various materials ordinarily employed for conduits, he finds nothing to condemn except lead pipes, which are always attended with a certain degree of danger, as lead is a cumulative poison, or 1-100 grain per gallon produces characteristic symptoms, paralysis, colic, etc. He recommended abandoning the use of lead suction-pipes to wells; and condemned, as unfit to drink, water that has stood in lead-lined cisterns or in lead pipes.

Papers by PROFESSOR S. G. DIXON, of the University of Pennsylvania, on

"TUBERCULOSIS" AND "TYPHOID FEVER IN MUNICH,"

were read by Dr. Egbert. In the latter paper he said: "I know of no other civilized nation that gives so little support and encouragement to sanitary matters as does this great Republic." The example of the city of Munich, by "its liberal support of its grand old sanitary professor, Herr von Pettenkofer," was presented for imitation. From 1866 to 1880 the mortality from typhoid averaged 332 per 100,000; from 1881 to 1888, only 42. This result he attributed to Von Pettenkofer, though the water-supply had also been improved. It appeared, however, that the ratio of mortality was no greater in the portion of the city provided with the old water-supply than in that of the new supply. He believes that typhoid bacillus cannot live over four days in the average water supplied to cities, basing his belief on experiments with bacilli exposed for more than four days to Schuylkill water.

A resolution was adopted testifying to the deep loss felt by the Association in the death of ex-President J. L. Bodine.

ELECTION OF OFFICERS.

The Executive Council presented the report of the nominations of officers for the ensuing year, which was unanimously adopted, as follows:

*President*—George P. Olcott, C.E., East Orange; *First Vice-President*—Hon. E. O. Chapman, Trenton; *Second Vice-President*—E. L. B. Godfrey, M.D., Camden; *Recording Secretary*—D. C. English, M.D., New Brunswick; *Corresponding Secretary*—Professor J. Madison Watson, Elizabeth; *Treasurer*—George W. Howell, C.E., Morristown.

## Correspondence.

### MEDICAL EXAMINATIONS AND CIVIL SERVICE REFORM. CAN THESE THINGS BE?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: In your issue for November 2d, I notice the following editorial paragraph: "It is well known that the state of civil service reform in New York is not what its friends could wish it to be; and that it would be well if some clear presentment of the facts were made by those who have had occasion to know best, as to the details and as to abuses—in the interests of better sanitation. It looks as if the only answer to the question was, 'What are you going to do about it?'"

Having had personal experience in the ways of alleged Civil Service Reform and its workings as applied to New York City, I have determined, in the interest of the medical fraternity, to respond to your appeal, hoping that some ultimate good may result therefrom.

It is evident to those who have had occasion to approach the machine that there is "something rotten in Denmark." Possibly a permanent coryza may afflict the members of the Civil Service Board, and they do not observe the stench. Possibly they are incompetent, or perhaps so occupied by other and to them more important cares and duties, that their subordinates have opportunities for disreputable acts which pass unobserved.

No one, I think, questions the personal honesty of the gentlemen who compose this board. But when a battle is fought, the responsibility, on the defeated side, rests with the general in charge; and he cannot shift the load to other shoulders by complaining of a lack of efficiency or discipline in his subordinate officers. The simile holds good in the struggle between reform on the one hand, and political "pull" and "influoence" on the other. The people have reason to be thoroughly dissatisfied with the commanding officers on the side of justice. They have been laggards in the fight, and should be replaced by men who are Argus-eyed: men not alone who are conscientious, but who also will put the same energy and determination into the cause of the right as are necessary to compass and maintain the success of any great business firm.

As to the politicians—we have no just reason for complaint. As found in New York they are "statesmen" for revenue only—for the money there is in it. To a man they hate the Civil Service laws, formulated to cut away their patronage by removing appointments from their hands. And as they find many a loophole of escape, they also despise these laws and the weak supporters thereof.

We have herein no cause for complaint, as we cannot expect assistance nor anything but keen antagonism from "our friends the enemy." He would be a fool or a coward who laments because the enemy does not give him aid. But we do have just cause for indignation when we find indifference, or something worse, within our own camp.

Let me speak only whereof I know. Concerning Civil Service as applied to others than medical men, I know nothing. But in respect to physicians I have had some experience which I now propose to lay before the profession.

And here let me say that I have no axe to grind. My own days of examinations are long past. Such personal grievance as I have had has not been hastily thrust before the public, either for sympathy or for any other reason. This must be admitted without argument, since my own experience dates back nearly five years; and yet not from that day until now have I published a word regarding the matter. Nor would I do so even now except for the hope that your editorial, serving as a text and an incentive, may lead others to do likewise; and that together we may accomplish something more than one alone can do.

The first Civil Service examination for permanent positions for medical men, ever held in New York, I believe, was that of February 3 and 4, 1885. There was a vacancy in the number of Police Surgeons owing to the death of a member of this corps. The position is a desirable one, being of certain tenure, and the salary being $1,500 at first, later, $2,250 per annum; with abundant time for private practice, as the duties are generally light.

This examination was duly and properly advertised beforehand in THE MEDICAL RECORD and *The Medical Journal*; and thirty-nine physicians, of whom I was one, competed for the appointment. We were examined for the greater part of two days upon the seven main branches of medicine, by three physicians selected by the board, as I was told, each to represent one of the three great medical colleges of this city.

In the event, I was so fortunate as to stand first, with a rating of one hundred per cent. in each of the branches. My friend Dr. Condict W. Cutler, then recently of Bellevue Hospital, stood second, with ninety-eight per cent.; and Dr. Charles S. Mack, then recently of Chambers Street Hospital, was third, with ninety-three per cent.

According to the law, the Police Commissioners should appoint one of the first three. In my innocence and freshness I actually supposed that the heads of the municipal police force would do as they should do—that they would obey the law as a matter of course.

As I look back upon the affair, this belief—this child-like trust on my part in official honesty of intention, strikes me as most ludicrous and amusing. But at that time I really supposed that the result of Civil Service rules was to give the appointment to the candidate reaching the highest rating.

Time passed, and no appointment was made. At last, becoming worried, I took several letters of introduction from eminent business men and called upon the Police Commissioner—since retired from office—whose turn it was to appoint (the four commissioners appoint in rotation).

I saw him alone in his room at Police Headquarters. He read my letters, also the paper announcing my stand-

ing. Then he said: "Civil Service Reform be damned! I will not, as we say, *hang you up*, but will tell you plainly that neither yourself nor any doctor who passed that examination will be appointed. I have promised that place to a doctor who did not take that examination, and after your period of eligibility has expired there will be another examination, and my man will go in."

If the commissioner had knocked me down he could not have surprised me more than he did by that speech. In reflecting upon it, I can only account for his surprising frankness by the remembrance that we were alone, and any subsequent repetition on my part would probably be met by a simple denial on his part, and there the matter must rest. Though I felt bitter enough at the time, I am now rather grateful to this individual in one respect, for he might have *hung me up* (kept me in suspense by postponements and false promises) indefinitely, instead of giving me a prompt despatch, as he did.

I called next upon all the individual members of the Civil Service Board, gave a brief statement of the facts just narrated, offered to make affidavit thereunto, and asked them to endeavor to prevent such a wilful and contemptuous infraction of the spirit of the law, by prolonging the period of eligibility of successful candidates for medical positions until at least some one member of a given eligible list had received an appointment. This certainly was a reasonable request, and would, if carried into effect, have blocked the Police Commissioner's scheme to violate the law.

These gentlemen listened to me politely, seemed not to care about the matter particularly, and nearly a month later sent me a note, through the secretary of the board, stating that they would not take any action at present.

That ended the matter so far as my efforts were concerned. I did not appeal for justice to the public, because the use of the daily papers for such a purpose is not open to self-respecting physicians.

At length the time arrived—one year—when we who had passed that examination were no longer eligible. And, of a truth, none of that list were ever appointed. Shortly thereafter I heard that there had been another examination. Differing from the first, this examination was not, as it should have been, advertised in the medical journals. I am told that it was only advertised in the *City Record*, the official and legal organ of New York City appointments. Certain it is that not more than half as many doctors appeared at this examination as at the previous one, they being mainly those who had political friends to notify them. Very few of the first list were present, or had even heard of the second examination until it had actually been held.

Owing to the death of yet another Police Surgeon, during my year of eligibility, and to the fact that the commissioners now retired a couple of surgeons who were over sixty-two years of age, there were four vacancies. These were filled from this second eligible list, by selecting four men, one of whom was the physician who, as I have stated, had been promised the appointment more than a year before. This gentleman is the nephew of an eminent statesman, to whom the commissioner aforesaid was under obligations. (I would not have it supposed that he was unworthy. I have reason to believe him an excellent physician.) Another appointee was a close relation by marriage to the leader of one of the city political factions; and this leader secured his appointment. The remaining places went to two men who had served in the army during the war. They were both near the foot of the list, having shown a poor standing. But the commissioners in this case had no choice, the law being mandatory regarding veterans of the late war.

The two candidates who had stood highest upon this eligible list, respectively, Drs. Charles E. Quimby and Condict W. Cutler, not having enough "pull," were ignored, passed over, and never received an appointment.

Some little good to others came out of my own discomfiture, in this wise: I wrote the Hon. John Jay, Chairman of the State Civil Service Board, saying that it seemed to me only courteous that all the successful candidates of a given examination should be specially notified, when their eligibility has expired without appointment, of the time and place of the next examination.

Mr. Jay in his reply stated that he agreed with me, and would endeavor to have this point carried into effect throughout the State. This, I am told, has since been done.

Between the time of which I have been writing—1885 and thereabout—and the present date, I have heard from various sources, authentic, I believe, occasional reports of medical appointments to our city departments of which we cannot be proud. During these years I have had quite a number of applicants for quizzing in preparation for the city Civil Service medical examinations; and I have always advised the gentlemen in question, as in conscience bound, not to waste their time. If they have a "pull," seventy per cent.—the under limit—will suffice. If they have not a "pull," a higher per cent. will not avail anything.

It may perhaps interest your readers to know of the latest proof of the kind whereof I speak. I give it with the brief preface, that it is only a fair assumption that it is not the only case of its sort. There are probably others of which I do not happen to know.

Dr. A B C, a former student of mine, did not, until after the fact, hear of the examination held this summer for the "Summer Corps" of physicians to assist the regular corps of the Board of Health. He was but a day or two late, and determined to try political influence. In this he was successful, for a well-known city official, of his own language and religious belief, procured for him a copy of the questions, which he answered at his leisure, at home, and doubtless to his own satisfaction. His paper was then duly handed to his political friend, was slipped in among the other papers, and in a short time he received his appointment as a member of the "Summer Corps," in which he remained throughout the season.

I have reason to believe what the doctor said to me. In the first place, he had no reason for deceiving me. But, aside from this, I know that he was elsewhere when the regular examination was held, and I know also that he was, nevertheless, in the Summer Corps.

If it should be said that I owe it to the profession to report, publicly, the names of such flagrant violators of the law, I can only reply that I would gladly do so; but that this and such other instances as have come to my notice were told in confidence, which, although unsought on my part, I cannot break.

I presume that the Civil Service Board will find it easier and simpler to disbelieve my statements than to keep that sharp watch over the *personnel* of their department and the purity of their "reform" which they devote to their private finances.

The medical profession in this country seldom bestirs itself in public matters even where its own weal is concerned. More is the pity. We can hardly expect others to show a greater interest in our own affairs than we ourselves discover.

If such a large body of educated men as the physicians of New York were really to take some concerted action, and maintain it loyally, what could they not accomplish in the way of abating political abuses? If a standing committee, wisely selected, from the Academy of Medicine, or the County Society, or both, should make earnest and continued endeavor, perhaps the public at large might come to understand—as an example—that their lives might be better protected against plague and pestilence than at present; that the health-officer to a great port should be one in fact, and not alone in name: one who has demonstrated some ability in preventive medicine, not one who is selected solely for political and partisan reasons—his office being merely a source of revenue to his party.

It may be, too, that such a fighting committee might

succeed in wiping from our name the stain and reproach which is conveyed in the exclusion of a physician and the appointment always of some politician as the head of our Board of Health. Even such serious matters as life and death have their ludicrous side at times; and what could be more grotesque and worthy of comic opera than debarring a medical man from the head of a department which absolutely demands for the protection of our citizens a thorough medical training?

It would be well for our standing committee to keep an eye upon the Civil Service Commissioners with regard to the various medical examinations, and the resulting appointments. Such scrutiny would not be pleasant for these gentlemen, but, in view of the facts, who shall say that it would be time ill spent?

I am told that the board have not always been wise in their selection of physicians as medical examiners. That is a matter wherein, necessarily, their judgment cannot be of the best. It would be a modest and becoming admission of fallibility on their part if they would request the Academy—for instance—to name responsible and able men, annually, for this purpose; and these examiners should endeavor to give their examinations as practical a cast as possible.

And finally, one—possibly two—further reforms are needed in our vaunted Reform. First, the man who heads the successful list should be the man appointed; and the wording of the law should make this inevitable. Otherwise, as now, the thing is a farce and a sham reform.

Regarding the second, I speak with much hesitation. It has reference to the preferment of veterans over men who may have been shown by the examination-test to be the more able physicians.

I would not have it thought for a moment that I do not feel hearty respect and admiration for these brave men, as every true American must do. And I sympathize with the public sentiment which shows them honor in every proper way. But is this a proper way? I would not be dogmatic. Perhaps my views herein are wrong ones. But reflection would seem to show that this clause is an excrescence in Civil Service laws. So far from being a proper part of it, this provision seems to me to antagonize directly the theory on which the whole fabric of examinations rests; which is, as I understand it, that the man of greatest demonstrated fitness is the proper man. Sympathy, gratitude, admiration of personal bravery, or other emotion, is quite foreign to the matter. If it be objected that the veteran should nevertheless be appointed because examination is often a fallacious test of real ability—which is, up to the present time, certainly the truth—that is largely the fault of the examiner and the kind of examination. It could be made a very fair test, if sufficiently practical and not too brief and hurried.

It is probably expecting too much to hope for a change for some years to come in the law regarding veterans. And it is very probable that some of your readers would support it, and disapprove any change in this regard. As I have said, this may well be considered ground for amicable difference of opinion. But in all other respects I feel sure of the earnest concurrence of a united profession in what I have indicated as a line of true reform.

Very respectfully,

ROBERT H. M. DAWBARN, M.D.

345 WEST FIFTY-SIXTH STREET, NEW YORK.

## STATE EXAMINING BOARDS.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: If not intentional, it was certainly a happy coincidence, that in THE RECORD for November 9th, together with a letter advocating "A Medical Examining Board for New York State," there appeared, as it were in refutation of it, an extract entitled "The Trade of Medicine in Germany." From the latter one may form a slight idea of some of the beautiful results which ensue whenever the state begins to "regulate;" for it is an often observed fact, that when legislative aid has once been involved, no one can predict where its mischievous spirit of interference will stop.

The history of the progress of medicine in the United States is—in spite of every shortcoming—that of a steady and healthy upward movement, with either no legislative "regulation" whatever to hamper it, or hardly any worth mentioning. Year after year has witnessed a constantly increasing demand, as well for a higher standard of general education as for a wider range of special learning, from him who essays to enter the ranks of medicine. And to keep pace with these demands, a progress as uninterrupted has in general marked the policy of the medical schools; witnessed everywhere by the addition of new departments, and the eager adoption of every improvement in the means of teaching. It is a matter of common remark and congratulation how this spirit of advance, which has been gradually evolving, has, in recent years, gone forward with giant strides. Let him who graduated but ten years ago contrast his opportunities for learning with those now presented in the city of New York. Let him think of the stately college buildings and the number of magnificently equipped laboratories that have sprung into existence in that short time; let him remember the two excellent schools devoted solely to the instruction of post-graduates that have been founded; and then let him ask himself to what these beneficent changes are due. Will anyone be rash enough to assert that one jot or tittle of all this improvement is due in any way to legislative aid? The benefits we now enjoy are wholly the outcome of the enlightened demands of public opinion; and it is to public opinion alone, where democratic institutions prevail, that every citizen must look for progress and reform. This it is, and not the paralyzing aid of legislation, that we have to thank for every good we now possess; and may that shameful day be far distant when the medical profession of the Empire State, hat in hand, shall knock at the door of the Capitol at Albany—whose very ceilings cry "fraud!"—and beg "protective regulation."

Look again, and on the other side see the workings of those medical departments in which politics now has a hand. Observe what enlightened pathologists our coroners are, what acute sanitarians usually grace the heads of our boards of health, what eminent epidemiologists preside at the entrance of our harbor.

But suppose we are to have a State Examining Board, who is to compose this board? Regulars, homœopaths, and eclectics, of course, since all being on an equal footing before the law, all are entitled to representation, and all will claim it. And does any man for a moment suppose that a license issued by such a heterogeneous medley will command more respect than that which is now granted through a college diploma? Since it may justly be claimed that the health of the soul is, if anything, more important to the State than the health of the body, it would be just as logical to advocate a State Examining Board in theology, to be composed of Christians, Jews, Mormons, and Buddhists.

All legislatures have granted in the past, and still continue to grant, charters to institutions which prove themselves of shady reputation. This fact alone is in itself a guarantee that in the formation of a State Board of Examiners every kind of "influoence" but the proper one might be brought to bear.

But instead of pleading the baby act, and crying for legislative "protection," be it ours to choose the nobler part—be it ours to continue that manlier policy of relying upon ourselves for the command of public respect. Let us persist upon this path, which, as heretofore, has been trodden with honor and success, knowing that every true advance can come only from within—never from without.

And as my friend Dr. Wyeth has invoked the Academy of Medicine, let me do so too.

Moved by the same spirit of appreciation of the elevat-

ing impetus that freedom gives, which led the Academy a few years ago to abandon a worn-out "code" to those who still might feel the necessity for one, may it now and always set its face against any reactionary movement which, under the plausible guise of "regulation," opens the door to the shackling of that free spirit which for its perfect development asks no favors, craves no boon, scorns every special privilege, demands naught save *liberty*.

WALTER MENDELSON, M.D.

November 14, 1889.

## HOW IS THIS?

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: The last issue of THE MEDICAL RECORD contains a report of the Seventh Annual Meeting of the American Rhinological Association. In this report is mentioned a paper on "Ocular Reflex Symptoms in Nasal Diseases," presented by a Dr. C. H. Moore, of Indianapolis. The substance of the paper and the criticisms derived therefrom are literally copied from an article entitled "Reflex Ocular Symptoms in Nasal Affections," written by me in 1885, read before the New York Academy of Medicine, and published in THE MEDICAL RECORD of January 30, 1886. My conclusions and those of Dr. C. H. Moore placed in parallel columns will demonstrate the plagiarism:

| GRUENING, 1886. | MOORE, 1889. |
|---|---|
| The cases here presented have the following features in common: | The cases reported had the following symptoms in common: |
| 1. Burning and smarting sensation of the lids or of the eyes, more pronounced in the morning than in daytime. | 1. Burning and smarting sensation of the eyelids, especially in the morning. |
| 2. Inability to fix an object in ordinary daylight | 2. Difficulty in distinguishing an object in ordinary daylight. |
| 3. Increased vascularity of the conjunctiva, and lachrymation upon slight provocation, such as a mild current of air. | 3. Increased vascularity of the conjunctiva, and lachrymation on exposure to the air. |
| 4. Sound condition of the eyes and their appendages. | 4. The sound condition of the eyes and their appendages. |
| 5. Inefficiency of the ocular and the general treatment. | 5. Failure of the ocular and the general treatment. |
| 6. Efficiency of the nasal treatment in spite of the absence of nasal symptoms. | 6. The efficiency of nasal treatment. |

By giving publicity to this card you will follow the tenet of *suum cuique*, under which THE MEDICAL RECORD has grown and thriven.

Truly yours,

E. GRUENING, M.D.

NEW YORK.

## THE OPPORTUNITIES OF RELIEF FOR THE POOR OF NEW YORK SUFFERING FROM DISEASES OF THE RECTUM.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: I am the recipient of a circular issued by a well-known "medical corporation"—here in New York—that advertises "a clinic for diseases of the rectum, to be under the personal care of Dr. ——." It begs reference to this clinic of persons suffering from this class of diseases, and adds:

"There has been, as you know, very little special care of these very deserving cases, and we trust that the profession will aid the Hospital and Dispensary in giving them special and proper care."

This statement—as you are aware, sir—is absolutely false, and its falsity is only equalled by its absurdity. You and I know perfectly well, from personal knowledge and attendance at the regularly organized general dispensaries and hospitals of New York, that these "very deserving cases" *do receive* "*special and proper care*"—more, that there has never been any period in the history of the city of New York, from the time the illustrious Bush practised general surgery in this community—over fifty years ago—up to the present moment, when such assistance—of the best grade too—has not been afforded "when called for."

I ask the insertion of this communication to attract the attention of those who do not know of the good service rendered in the general and well-organized dispensaries and hospitals of New York, and of those whose credulity is imposed upon to maintain too many "institutions," at a great cost, for many other than purely charitable purposes.

The circular is signed by five members of "the hospital committee of this institution," the majority of whom have at least had opportunities of knowing that the appeal is an improper one, and that my statements are strictly correct.

MORRIS H. HENRY, M.D.

581 FIFTH AVENUE, NEW YORK,
November 18, 1889.

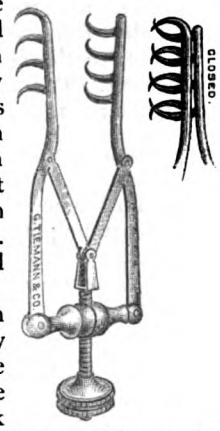
# New Instruments.

## A NEW MASTOID RETRACTING SPECULUM, RETRACTORS, AND LANCE-POINTED DISCISSION KNIFE.

BY FRANK ALLPORT, M.D.,

PROFESSOR OF CLINICAL OPHTHALMOLOGY AND OTOLOGY IN THE UNIVERSITY OF MINNESOTA.

I DESIRE to ask the notice of the profession to an instrument I have devised for the purpose of facilitating the operation of opening the mastoid cells. In this operation it is desirable that the two flaps made by the incision be kept widely open, in order that the work upon the bone may be kept well under observation. I have been in the habit of obtaining this result by two tenaculums placed in both sides of the opening, and held apart by an assistant. The instrument here shown accomplishes the same result, and it does away with the necessity of an assistant for this purpose. I have called it a "mastoid retracting speculum."




The arms of the speculum can be closed or opened by the screw-button, at the base of the instrument. The hooks are made to interlock nicely, so that they may be introduced into quite a small aperture. The hooks have sharp, but not cutting, points, and the whole instrument is made short and strong, in order that considerable force may be used in opening the blades—which may become necessary in case of great thickening or swelling of the tissues over the mastoid process. The instrument may be introduced into the incision with its base either up or down. When thus introduced and widely expanded, and the parts wiped as dry as possible, a fine view of the underlying bone may be obtained, and the ease of the operation much facilitated. The wide expansion of the blades also aids in the stopping of the hemorrhage from the soft tissues, which also adds to the ease of the operation by presenting a much clearer view to the eyes of the operator. This instrument, as well as others referred to in this article, has been manufactured for me by Tiemann & Co., of New York, where they may be obtained. For the same operation, I have also modified an already existing instrument, by causing to be made a pair of grippling hooks upon a small scale.

These hooks have solid steel handles, and may therefore be rendered perfectly aseptic. They are to be introduced into the incision, and pulled apart by an assistant. A pair of these instruments is efficient, but not more so than the speculum, and necessitates an extra assistant, and consequently another pair of hands around the field of operation. I have called these hooks "mastoid retractors."

I wish, also, to present a modification of other discission needles. The blade is very thin and has a double cutting edge, which extends almost down to the stop-point. Just before reaching this point the edge is dulled, so that, in working the needle around inside of the eye, it will not cut the corneal tissue. The slanting shape of the blade renders its introduction into the cornea extremely easy, and the double cutting edge facilitates the breaking up of the lens-substance.

This instrument I have called a "lance-pointed discission knife." The belly of the blade, as shown in the engraving, is wider than will be seen in the instrument.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from November 24 to November 30, 1889.*

HAVARD, VALERY, Captain and Assistant Surgeon. By direction of the Secretary of War the extension of leave of absence, granted in S. O. 240, October 15, 1889, from this office, is further extended one month. Par. 1, S. O. 272, A. G. O., November 21, 1889.

BALL, R. R., First Lieutenant and Assistant Surgeon, Fort Riley, Kan., will proceed to Fort Sill, Ind. Ter., and report to the commanding officer for temporary duty at that post. Par. 2, S. O. 173, Department of Missouri, November 21, 1889.

PILCHER, JAMES E., Captain and Assistant Surgeon. By direction of the Secretary of War is relieved from duty at Fort Wood, N. Y. H., and will report in person to the commanding officer at Fort Clark, Tex., for duty at that station, reporting also by letter to the commanding general, Department of Texas. Par. 3, S. O. 276, A. G. O., November 26, 1889.

COCHRAN, JOHN J., Captain and Assistant Surgeon. Leave of absence for fifteen days is granted, to commence about December 1. 1889. Par. 8, S. O. 272, Division of the Atlantic, November 27, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending November 30, 1889.*

GUNNELL, F. M., Medical Director. Placed on the Retired List, November 27, 1889.

GAINES, J. H., Surgeon. Ordered to duty at Army and Navy Hospital, Hot Springs, Ark.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending November 30, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 28 | 8 |
| Scarlet fever | 49 | 8 |
| Cerebro-spinal meningitis | 1 | 2 |
| Measles | 38 | 3 |
| Diphtheria | 70 | 17 |
| Small-pox | 0 | 0 |
| Variola | 6 | 0 |
| Cholera | 0 | 0 |

TRIPLETS WITH BUT ONE PLACENTA.—Dr. C. Butler, of Shepherdstown, W. Va., writes: "Having noticed in THE RECORD during the last few months several cases reported of twins with one placenta, I thought perhaps the following would be of interest to your readers. I was called on July 12, 1889, to attend Mrs. A—— in labor, that being her ninth confinement. Labor advanced rapidly, and in less than one hour she was delivered of triplets, two girls and one boy. The births followed each other so quickly that I scarcely had time to ligate and sever the cords. There were now three cords protruding, and in a few minutes the pain set in again and a placenta, to which all three of the cords were attached, was expelled." Dr. A. E. Aultz, of Richmond, Ky., also reports a case of triplets with three cords and but one placenta, as follows: "I would like to report a case of triplets with one placenta and three cords, two of which were attached near the periphery within one inch of each other, the other being inserted at a point about six inches from them. The placenta was very firmly adherent. Upon being called to see the patient, Mrs. Caroline B——, in labor, I made an examination and gave the opinion that she would bear twins. At four o'clock, two hours after I had been called, the first child was born by first position; in three minutes the second child was born by a feet-presentation, and in twelve minutes a third child was born, also by the feet. Two of the children weighed seven pounds each, and the third six pounds. The placenta (and only one placenta) was adherent, and was removed with difficulty. The children and mother are doing well. Mrs. B—— is forty years of age and the mother of sixteen children."

LOCAL TREATMENT OF WARTS.—Dr. Altschul (*Centralblatt für Chirurgie*, No. 18, 1889) recommends mercurial ointment, to which arsenic in the proportion of five or ten per cent. has been added, as an application for the cure of warts. This is spread upon muslin and bound over the warts. When the latter become painful and excoriated, the excoriations are cauterized with fuming nitric acid. Then tar-ointment is applied. This treatment is certainly energetic enough and ought to destroy warts if anything will.

BICARBONATE OF SODIUM IN MILK.—Hitherto it has been deemed permissible to add soda bicarbonate to milk to assist in its preservation, but now the Council of Hygiene of the Seine has condemned the practice as one of danger. The transformation of milk-sugar into lactic acid, in milk so adulterated, gives rise to a lactate of soda which is purgative, and frequently a source of almost uncontrollable diarrhœa in infants. Consequently, the Council in its *Bulletin* decides that: "Soda shall no longer be permitted in milk, which is an aliment of the first order, and very often prescribed for invalids and children."—*Medical Age.*

GREEN SOAP IN CARIES.—Dr. Kollmann has obtained excellent results, in cases of caries, from the use of green soap, which he rubs in with a sponge, or the palm of the hand, over the neck, back, and the posterior surface of the thighs. These applications are made two or three times a week, and best at night, the quantity of soap used varying from 25 to 40 grammes. The soap is left on for half an hour, and is then washed off with warm water, and the patient sent to bed. Except in cases of chronic periostitis, or caries of the pelvis, spine, or lower extremities, the patient is allowed to follow his occupation during the day. Change of diet and cod-liver oil are not essential during the time of treatment, although they may hasten recovery. The results of this treatment were astonishingly good, the average duration being four and one-half months. The author thinks that in caries there is an excessive quantity of lactic acid in the blood and tissues, which is neutralized by the alkaline property of the soap. —*The Cincinnati Medical Journal.*

DR. NICHOLAS I. KOZLOFF, a well-known physician and one holding a most important position in the Russian public service, died recently in St. Petersburg of a cardiac affection.

# The Medical Record

*A Weekly Journal of Medicine and Surgery*

Vol. 36, No. 24 NEW YORK, DECEMBER 14, 1889 Whole No. 997

## Original Lectures.

### ON VITAL AND MEDICAL STATISTICS.[1]

BY JOHN S. BILLINGS, M.D.,
UNITED STATES ARMY.

LECTURES III. AND IV.

THOSE of you who are familiar with the history of medicine in the early part of this century will remember the great anticipations which were formed and expressed by prominent physicians as to the results which might be expected from what was called the system of statistical medicine, introduced in the Paris School by Louis and his contemporaries. This was not exactly a new system, but rather an attempt to methodize an old one, *i.e.*, to present the experience of different physicians in such a way that comparisons might be accurately made, and the results mathematically expressed.

In this so-called numerical method, all the details of each case observed are to be noted as far as possible, without any special regard to whether these details may appear to the observer to have any special connection with the course of the case or its termination, or not. When a number of such cases have been collected, they are to be compared in all their details, showing, in round numbers, how many present such and such particular circumstances, and how many do not.

In order to make a useful application of this method it is, of course, necessary that the different observers shall be describing substantially the same thing; that is to say, the disease to be observed must present a definite series of symptoms so that a person properly qualified will recognize its existence without any liability to error. It should also be a disease which follows a tolerably regular and definite course, having a commencement which can be recognized. Such forms of disease include the so-called specific diseases, and acute affections of particular organs. The method is most applicable to surgical cases of all kinds, including those which come under the domain of the various specialties.

As regards details of pathological anatomy, it has been pointed out by Dr. Flint that the statistical method can apply only to those changes which can be appreciated by the senses after death, and that there being but one constant lesion found in typhoid fever, viz., the softening of Peyer's patches in the small intestine, the statistical method gives us little assistance in the investigation of the pathological condition of this disease.

We may note, however, that, if it be admitted that typhoid fever is due to a specific bacillus, as seems now to have been fairly demonstrated, and that this bacillus has been discovered and verified mainly by the application of experimental methods, it is, nevertheless, true that the results thus obtained have met with a general and prompt acceptance, mainly because the application of statistical methods to the circumstances of outbreaks of this disease in different communities are in perfect accord with the bacillus theory of its causation.

This merely illustrates the general law that the experimental and the statistical[2] methods must be used together, and that their results must be in accord, to produce full confidence in the results obtained by either alone.

The sanguine advocates of the numerical system of Louis supposed that all that was necessary to discover all the laws with regard to the propagation of any disease, and the true value of any or of all methods of treatment proposed for that disease, was simply the collection by different observers of all the data which could be obtained from individual cases, and the tabulation of these according to a certain fixed and almost mechanical system of permutations and combinations, by means of which the various symptoms are brought together in groups, in connection with the results observed, and that thus should be obtained a true scientific basis, or, as they commonly phrased it, "the science of medicine."

We can now see plainly enough that this is, from the nature of the case, impossible; that the data obtained by different men can hardly ever be made fully comparable, and that, however complete they may be, the number of factors which combine to produce such a result as the production of a particular form of disease in a healthy organism is so great that, from mere statistics of observation, we can never obtain scientific knowledge as to the relative part which each factor has taken in producing the result. This can only be done by experimental methods, in which the influence of one particular factor can be applied and those of others eliminated as far as possible; and the great advances which have been made toward obtaining a scientific basis for practical medicine within the last twenty five years are, in the main, due to the experimental method. So soon, however, as we have, by the investigation of particular cases and by experiments, obtained a more or less probable theory as to the cause and mode of diffusion of a particular form of disease, the outbreaks of that disease in a community afford an invaluable means, in many cases, of testing the truth or falsity of the theory.

It must be admitted that the probabilities of error are much greater in medical than in vital statistics, and this for a number of reasons. The first is that no two observers examine, or interpret, a disease in precisely the same way, and hence it is extremely difficult to collect a mass of observations sufficiently large to form a basis for statistical reasoning. Those who wish to be scientifically accurate in the use of such material are usually compelled to deal with a very limited number of observations, because they cannot obtain a large number upon which they can fully rely.

The best data are, for the most part, those which lie in the field of surgical observation, since here the symptoms observed, the methods of relief applied, and the results obtained, are tolerably definite, and there is not likely to be much difference in the methods of recording them.

The methods of medical statistics differ fundamentally from those used by the vital statistician in that they usually have no relation to the phenomena observed in the normal, healthy, living population. The physician inquires, out of a thousand cases of children or of old persons that have been treated, how many times has this particular disease been met with; or, in a given number

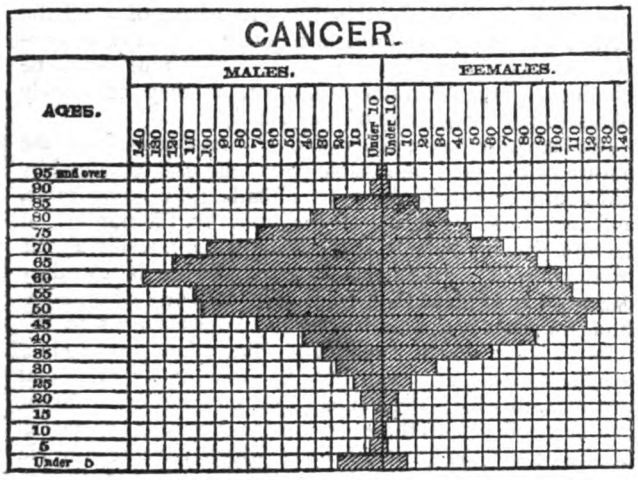
[1] The Cartwright Lectures, delivered before the Alumni Association of the College of Physicians of New York, November, 1889.

[2] An interesting discussion on the value of the statistical, or numerical method, as applied to medicine, will be found in the Bulletin of the Royal Academy of Medicine for 1836, vol. i., p. 622 *et seq.* The immediate cause of the discussion was a paper by d'Amador attacking the value of the methods of Louis and criticising the results obtained. Bouillaud, Chomel, Double, and others took part in this discussion, *pro* and *con*; and while no definite conclusion was reached, it was very evident that the dispute was rather a matter of definition than of anything else.

of cases of this disease, what proportion have died? This method is, in fact, practically the only one which is available to the physician; but the vital statistician, if dealing with disease, will want to know what are the probabilities that a male between twenty and thirty years of age will contract a given disease, such as phthisis or typhoid fever, and for this purpose he wishes to know the whole number of cases observed in a given population, and the number of the population furnishing those cases, in order to establish the ratio.

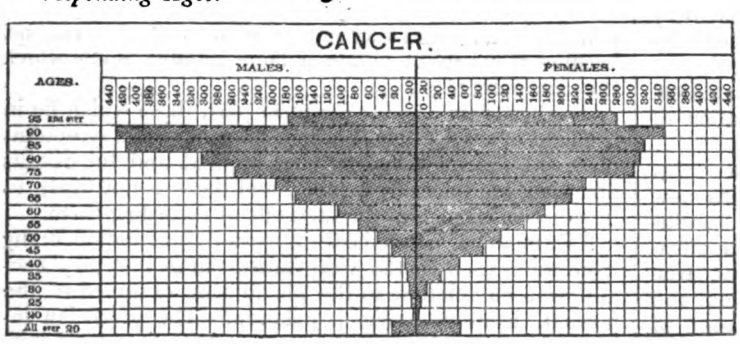
Bertillon illustrates this in his comment that the small number of deaths of old men attributed to typhoid fever might lead the physician, from his point of view, to say that typhoid fever in old age is a rare disease; but the vital statistician might conclude that the rarity of the disease in old age was simply due to the small number of those living at that period.

*Deaths from Cancer at Certain Groups of Ages in* 1,000 *Deaths Caused by this Disease.*




This may also be illustrated from the statistics of the 13,000 deaths reported as due to cancer in the United States during the census year 1879–80. The first of the two diagrams before you shows the proportion of deaths from cancer at different ages in the manner in which it would be calculated from the records of physicians or hospitals; namely, the ratio at each age to 1,000 deaths caused by this disease. From this diagram it would appear that cancer is most fatal about the age of sixty. If, however, we compare the deaths from cancer at each age with the total living population at that age, after the methods of the vital statistician, we obtain the figure shown in the second diagram, which indicates that the mortality from cancer increases with advancing years to the age of ninety, and that the reason why the number of deaths from this cause diminish after sixty is simply because of the less number of living population after that age.

*Deaths from Cancer of Persons Over Twenty Years of Age, with Distinction of Age and Sex, in* 100,000 *of Population of Corresponding Ages.*




In discussing the tabulation of the returns of cases of acute rheumatism, in the "Collective Investigation Record," Dr. Whipham gives the number of cases in each occupation out of 655 cases recorded. Of these, 71 were domestic servants; 16, agricultural laborers; 13, farmers; 10, grocers, etc. He comments that the number of domestic servants, 71, is a remarkable occurrence, and proceeds to account for it by the consumption of alcoholic drinks, etc.

It is evident, however, that absolutely no conclusions can be drawn from these figures, since there is no definite proportion between the number of domestic servants attended by the physicians who made the reports and the number of domestic servants in existence, nor is there any relation between any of these figures and the number of domestic servants attacked by rheumatism. The only way in which this factor could be brought in in such statistics would be with reference to frequency and character of complication, or as to relative fatality of the attacks in comparison with other occupations.

The fact that in each case of sickness there are many different circumstances which combine to produce the result is not, as Louis remarks, a valid objection to the use of statistical methods for the purpose of estimating the influence and relative importance of each of these influences; it is rather an argument in favor of their employment. Counting is better than guessing, and when it gives contradictory results as applied to two groups of cases, it indicates that some circumstances have not been taken into sufficient account, and that further inquiry is necessary. In the body of the sick man, as in the test-tube, like causes under like circumstances will produce like effects.

Admitting that the chances of error in medical statistics are very much greater than in those relating to vital statistics, it does not follow that they have no value. It simply increases the desirability of collecting a large number of facts before proceeding to draw any definite deductions.

In statistics with regard to therapeutics, we have to take account of the various influences which the condition of the organism exerts upon the results before we can fairly estimate the action of the new and special influence which has been introduced in the shape of an action of a drug, or a particular mode of treatment. In any event, such statistics, even when derived from a small number of cases, serve to indicate lines of investigation, and to ask questions, if they do not answer them. As Legoyt remarks, two pneumonias do not resemble two dice, each having the same number of faces and of numbers, but rather dice with an unequal number of faces and different numbers.

The greater part of our pathology and therapeutics has not been derived from statistical observation. It is not by this means that the diagnosis of small-pox, or of scarlet fever, or of rheumatism, has been worked out, or the fact that the ulceration of the intestinal glands belongs to typhoid fever, or the presence of gummy tumors to syphilis; nor has it been by this means that the transmissibility of certain forms of disease by contagion has been proved. Whenever a necessary and logical connection between a particular cause and the resulting phenomena has been established, statistics are of little or no value in demonstrating the connection. In every case the result must follow the cause, as it does in a chemical experiment, and a few repetitions of such experiments give as great a degree of certainty as a thousand or more.

The chances of the occurrences of a certain event in relation to cause can only be mathematically calculated when the totality of the possible causes of the result remains the same under the different circumstances investigated. This is one of the chief reasons for the impossibility of drawing positive conclusions from medical statistics properly so called.

The consequent condition is one that I have already mentioned, viz., the application of the law of large numbers and the consideration of the limits of positive error.

The services rendered by statistics to medical science are by no means so great as was hoped by those who first proposed the application of this method; partly from the nature of the case, partly from the wrong application of statistical methods to groups of cases to which they are in nowise applicable. What result, in fact, can we expect from statistics applied, for example, to a number of cases of fever before the distinction between typhus, enteric, and relapsing fevers was understood?

The results of medical statistics will not apply to the treatment of any particular case. They can never prove that bloodletting should be employed in all cases of pneumonia, or that it should never be employed in any case of pneumonia. Even the results obtained from the most satisfactory medical statistics will only be found use ful to the physician in directing his treatment, in the absence of any special indications in the particular case which he has before him.

The data upon which to base medical statistics must be obtained either from published records, from unpublished memoranda collected by means of correspondence, or by the so-called collective investigation methods, or from personal experience. The published data include such records of private practice as are given in journals, transactions, monographs, etc., records and statistics of hospitals, statistics of public medical services and of medical and life-insurance societies.

In many respects the crude data in the form of records of individual cases are the most reliable; but the labor of collecting and combining them is great, and we desire, therefore, to use the statistical tables prepared by previous workers, as far as they are available, for the particular inquiries which we have on hand.

Detailed reports of cases, such as are suitable for use in statistical work, are not over-plentiful. In the majority of cases the individual data are not given. We have only summary statements of tables of results. This is the case with regard to much the larger part of the great mass of reports of results of hospital and asylum practice which have been published during the last hundred years, either in the form of separate annual reports or in summaries for journals or societies. These reports give some information as to the prevalence of certain diseases in certain places at certain periods of time, and in this way have some historical value, but they do not show the proportion of cases of disease or death to the living population in which these occur, and very few of them give the data by sex and age in the manner required by the statistician. Some of these calculate death-rates with reference to the total number admitted during the year, others to the total number treated, which includes those remaining on hand at the beginning and those admitted during the year, and others to the total number disposed of during the year by discharge, transfer, or death. A few of them give the average daily number under treatment during the year and the average number of days' treatment for each case, sometimes making a distinction of sex, but almost never of race or age.

Comparisons of gross death-rates of different hospitals, however calculated, are of little value for the purpose of determining either the sanitary condition of the place, the skill of the medical staff, or the merits of the particular system of treatment, owing to the great variations in the class of patients admitted. Of course, the statistics of hospitals for special classes of diseases can only be compared with those of the same kind, and, even for general hospitals, the fact that the gross death-rate of one is higher than that of another proves very little.

In a paper by Dr. Guy on the rate of mortality prevailing in the general hospitals of London, he compares the death-rates of King's College Hospital, with which he was connected, for the first five years of its existence, 1840 to 1844, with the five years from 1857 to 1861. During the first period it was an old building, in a bad locality, and greatly crowded, and without any reputation as a hospital or as a medical school. During the last five years it was in a new building, with excellent sanitary arrangements and with an excellent reputation. He calculated the death-rates on the number of admissions to the hospital. The rate for the first five years was 8.4; during the last five years it was 10.85. He concludes that a higher rate of mortality may be due to causes very different to sanitary defects in the building and want of skill in the medical staff, and that in a large city, in the case of a hospital enjoying similar sanitary advantages, the rate of mortality is mainly determined by the reputation of its hospital staff among the public at large and among its own pupils, which reputation influences the proportion of grave and dangerous cases which are sent to it.

In comparing hospital death-rates it is now generally agreed that it is best to make use of the death-rates in relation to the total number of persons disposed of by discharge, transfer, and death for a series of years. Comparison of the number of deaths with the admissions only, is apt to give very misleading results. A better method than this is that of Bertillon, who adds to the number at the beginning of the year one-half the sum of those admitted and of those going out. It is also desirable to know the ratio of deaths and discharges to the mean population of the hospital, which is obtained by dividing the number of days of treatment by 365; but in this connection it is to be remembered that when the mortality is calculated with relation to the number of days' sojourn in the hospital, those physicians who keep their patients the longest will show the lowest death-rates.

In this connection may be mentioned a curious error contained in the hospital statistics of France for the years 1833 to 1852, inclusive. Here an attempt was made to calculate the percentage of death on the total number treated, but the way in which this was done was to add the sum-total of those remaining at the end of each of the twenty years to the number of those admitted during the respective years, giving an average death-rate of 8.3, the figures being: Number admitted during the twenty years, 8,818,501; sum of those remaining at the end of each of the twenty years, 2,204,676; making a total of 11,023,177.

Here it will be observed that a large number of patients are counted twice over, for, instead of the total remaining over at the end of each of the twenty years, there should have been taken only the total remaining at the beginning of the record, which was 99,262; so that the number of patients has been improperly increased by 2,105,414, with a corresponding improper lowering of the deathrate, which should be 10.3 per cent. instead of 8.3.

One of the earliest statements in relation to the mortality of hospitals is that in Sir William Petty's work on "Political Arithmetic," to the effect that in the year 1685 the proportion of the deaths to the cures in St. Bartholomew's and St. Thomas' Hospitals was about 1 to 7.

In the old Hôtel Dieu, in Paris, for the years 1770–80 the ratio of the number of deaths to number treated was twenty-five per cent.

In the hospitals in Paris in 1822, for over 40,000 cases the mortality was 12.5.

In the Charité Hospital in Berlin, from 1796 to 1817, twenty years, the death-rate was 16.66. In the Imperial Hospital at St. Petersburg, from 1803 to 1817, fourteen years, the deaths were 22.22 per cent. of the number treated.

I have prepared an extensive series of tables of death-rates in hospitals, from which these are merely selections; but my conclusion from a careful examination of them is that they are worthless for any scientific purpose, and that such statistics are useless unless they give the death-rates by groups of ages.

The following table gives the means of comparing some ancient and modern death-rates.

| Hospital. | Period. | Death-rate of treated. | Death-rate of disposed of. | Average stay in hospital. |
|---|---|---|---|---|
| Guy's Hospital, London | 1730–40 | 13.80 | | |
| St. Thomas' Hospital, London | 1730–40 | 11.10 | | |
| St. Thomas' Hospital, London | 1870–76 | 12.15 | | |
| French hospitals | 1833–52 | 10.30 | 10.50 | |
| Charité Hospital, Berlin | 1878–87 | 9.60 | 10.40 | 29.3 |
| Allgemeines Krankenhaus, Vienna | 1878–87 | 11.50 | 12.40 | 25.5 |
| Italian hospitals | 1885 | 10.37 | 11.32 | |
| Bellevue Hospital | 1875–86 | ..... | 12.00 | 30.1 |
| Roosevelt Hospital | 1875–87 | ..... | 10.80 | 27.5 |
| New York Hospital | 1877–88 | ..... | 7.86 | 18.0 |
| St. Luke's Hospital | 1875–88 | ..... | 11.07 | 39.6 |
| City (Boston) Hospital | 1875–88 | ..... | 10.17 | 22.9 |
| Massachusetts General Hospital | 1874–88 | ..... | 8.31 | 26.7 |
| Pennsylvania Hospital | 1874–88 | ..... | 8.88 | 28.1 |
| Cincinnati Hospital | 1875–88 | ..... | 9.26 | 29.3 |
| Rhode Island Hospital | 1875–88 | ..... | 8.91 | 37.4 |

In his prize-essay on "Hospital Statistics" Dr. Steele substantially agrees with the remarks of Dr. Guy above referred to, and says that the hospital which confers the greatest benefit upon the community is that having the highest death-rate, as it is the one which admits the most critical and incurable affections. As the population of a city increases, the demand for hospital accommodation also increases, and, unless more of this is provided, the tendency is to select the more serious cases for admission, and thus to procure an increased mortality-rate.

I cannot assent to the proposition that a high mortality is any proof of the utility of a hospital, or of the skill of its staff—but it is certainly not a proof of the contrary.

The mortality of the non-accident cases averages from four to five per cent. But the fame of the hospital, the reputation of its staff, especially for difficult and hazardous operations, may tend to increase the ordinary death-rate.

An increased mortality in the surgical ward may be due to special provision for permanent residence of patients with incurable disease, such as the establishment of a ward for cancer-cases.

There have been a number of reports and discussions in statistical congresses and societies with regard to the best forms to be used in publishing hospital statistics. The following are the desiderata for hospital statistics as given by Miss Nightingale:

1. Remaining in hospital on the first day of the year.
2. Admitted during the year.
3. Recovered or relieved during the year.
4. Discharged incurable, unrelieved, for irregularities, or at their own request.
5. Died during the year.
6. Remaining in hospital on the last day of the year.
7. Mean duration of cases in days and fractions of a day.

In each of these headings the data are given for each disease, for each sex, and for each of a number of groups of ages; the primary object being to ascertain the total sick population, that is, the number of beds constantly occupied during the year for each disease, and each age and sex; 2, the number of cases of each disease, for each age and sex submitted to treatment; 3, the average duration of each disease for each age and sex; 4, the mortality of each disease for each age and sex; and, 5, the proportion of recoveries for the same.[1]

From what has been said in these lectures it will be seen that no form of hospital statistics can be considered as satisfactory which does not give the distinctions of sex and age, and this not only for the total of all the patients but for each of the several forms of disease treated. The best form for hospital statistics is probably the following:

*Form of Table for Hospital Statistics.*

| | | Total. | AGES. | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Under 5 | 5–10 | 10–15 | 15–20 | 20–25 | 25–35 | 35–45 | 45–55 | 55–65 | 65–75 | Over 75 |
| Remaining at commencement | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Admitted during the year | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Discharged | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Transferred | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Died | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Remaining at end of year | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Total number of days' treatment | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |
| Death-rate per total disposed of | M. | | | | | | | | | | | | |
| | F. | | | | | | | | | | | | |

Prior to the discovery and employment of antiseptic methods in obstetrics the records of lying-in hospitals were very unsatisfactory. It is true that we have no very definite standard of death-rates in childbearing in private practice with which to compare them, but this rate is given by the Registrar-General of England as being at the rate of five per thousand children born alive for the twenty-eight years, 1847 to 1874.

The summary of the returns of the extern maternities in connection with Guy's, St. Bartholomew's, and St. Thomas' Hospitals for the twenty-one years, 1856 to 1876, comprising an aggregate of 74,580 cases, gives a mortality of 4.1 per thousand.

The largest lying-in hospital, and the oldest, is that known as the Rotunda, or Dublin Lying-in Hospital. In 198,481 cases of confinement in that hospital, the death rate was 13.9 per thousand.[2] The following table is of interest in this connection:

[1] See paper on Hospital Statistics and Hospital Plans, by Florence Nightingale, Transactions of the National Association for the Promotion of Social Science, 1861, p. 554.

[2] Summarized from Dublin Medical Journal, 1869, and from Dr. Johnston's Annual Reports from 1868 to 1875.

*Table showing, for Prussia, from 1816–86, the Number of Deaths in Childbed, the Proportion per 100 to Labor Cases, to Women between 15 and 45, to Total Deaths, and the proportion per 1,000 of Population.**

| Period. | Number | Per cent. of labor cases. | Per cent. of women, 15-45. | Per cent. of all deaths. | Per 1,000 of population. | 1 death to each case of labor. |
|---|---|---|---|---|---|---|
| 1816–20. | 22,036 | 0.9454 | 18.82 | 1.430 | 0.402 | 1 : 106.0 |
| 1821–30. | 44,826 | 0.8979 | 16.78 | 1.300 | 0.360 | 1 : 101.4 |
| 1831–40. | 48,291 | 0.7982 | 13.61 | 1.160 | 0.345 | 1 : 112.2 |
| 1841–50. | 47,506 | 0.7779 | 12.45 | 1.030 | 0.294 | 1 : 130.2 |
| 1851–60. | 53,341 | 0.7949 | 13.07 | 0.950 | 0.302 | 1 : 127.5 |
| 1861–70. | 64,056 | 0.7716 | 13.99 | 1.070 | 0.304 | 1 : 129.8 |
| 1871–75. | 41,735 | 0.8398 | 14.82 | 1.130 | 0.328 | 1 : 121.2 |
| 1876–86. | 68,942 | 0.5830 | 10.89 | 0.902 | 0.237 | 1 : 167.7 |

* Ehlers Zeitschrift f. Geburtshülfe, etc., 1889, xvi., p. 455.

It is not an easy matter to determine what may be called the normal or average mortality of women in childbirth, in order to determine the probable utility of a particular mode of managing cases of labor, as, for example, the so-called aseptic method. From the mortality statistics of the last United States Census [1] we find that in 1,577,173 births 5,646 deaths of the women are reported, being in the proportion of 3.57 per thousand births. This proportion was higher in the rural districts than in the large cities, and in negroes than in whites, as will be seen from the table:

| | Total births. | Deaths from childbirth. | Deaths from childbirth per 1,000 births. |
|---|---|---|---|
| The United States | 1,577,173 | 5,646 | 3.57 |
| Rural | 1,348,561 | 5,283 | 3.91 |
| Cities | 228,612 | 363 | 1.58 |
| Whites in Southern States | 723,884 | 2,225 | 3.07 |
| Colored in Southern States | 240,607 | 1,217 | 5.05 |

For the same year (1880) the Registrar-General of England reports the death-rate of women in relation to births as 2.07 per thousand. If now we compare these figures with those given by obstetricians and physicians, we shall find that the latter give death-rates from two to four times as great. Thus, Duncan gives the death-rate in private practice as from 8 to 10 per 1,000 births, while LeFort gives the figures from maternity hospitals as 30,594 deaths in 888,312 births, or over 34 per thousand; while Ehlers, using the statistics of Prussia from 1816 to 1886, gives the rate as from 5.8 to 9.4 per thousand.

How are we to explain these differences? Is the reported greater mortality in rural districts, in certain races, or in physicians' reports, due to peculiarity in the cases reported, or to the surroundings, or to the method of making reports and collecting data? Evidently the latter is first to be considered. In the data furnished by the census and the English registration reports, the cases attended only by midwives and wise-women are included as well as those attended by physicians, and it is among the negroes and the Germans that the proportion of cases thus attended is the greatest. Moreover, in the cities where there is a regular registration of deaths upon physicians' certificates there is less tendency to give the vague term childbirth as the cause of death than in the rural districts where the cause of death is returned by non-professional persons; but this does not apply to England, and it is not probable that it greatly influences the results in this country.

The deaths reported in the census as due to childbirth are those which occur during or soon after labor, including those due to hemorrhage, exhaustion, acute uræmia, etc., while those which occur at a later period may be reported as due to peritonitis, septicæmia, etc., although the physician in reporting the results of his private practice would include all these as deaths due to labor.

While the physician will usually consider only the relation between the number of cases of labor and the number of deaths in childbirth, the vital statistician will study the relations of deaths in childbirth to the number of women living between the ages of fifteen and fifty years, or to the total number of deaths from all causes. The figures of the last United States Census show that of every 100,000 women between the ages of fifteen and fifty living in our large cities, 16.21 died in childbirth during the year, while in the rural districts the corresponding figure is 51.58. The following table shows the ratios in relation to deaths of women from all causes, with certain distinctions of locality and race:

*Table showing, for Rural and Cities, for White and Colored Females, and for Females of Irish and German Parentage, the Proportion of Deaths from Childbirth and Abortion in 1,000 Deaths of Females from Known Causes.*

| Grand Groups. | Rural. | | Cities. | | White. | | Colored. | | Irish Parentage. | | German Parentage. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Childbirth. | Abortion. | Childbirth. | Abortion. | Childbirth. | Abortion. | Childbirth. | Abortion. | Childbirth. | Abortion. | Childbirth. | Abortion. |
| 1. North Atlantic Coast region | 9.3 | 0.7 | 6.3 | 1.0 | .... | ... | .... | ... | 12.4 | 0.3 | 11.2 | 1.5 |
| 2. Middle Atlantic Coast region | 17.3 | 1.2 | 4.9 | 1.8 | 7.3 | 0.7 | 17.8 | 1.0 | 7.2 | 0.6 | 6.4 | 1.1 |
| 3. South Atlantic Coast region | 32.4 | 1.8 | 1.1 | .... | 24.5 | 0.9 | 32.9 | 0.7 | | | | |
| 4. Gulf Coast region | 37.3 | 3.0 | 1.2 | 0.4 | 25.5 | 1.0 | 23.5 | 0.8 | | | | |
| 5. Northeastern hills and plateaus | 12.6 | 1.5 | 8.5 | 1.2 | .... | ... | .... | ... | 10.1 | 0.3 | 10.2 | |
| 6. Central Appalachian region | 13.1 | 1.3 | 6.7 | 1.3 | .... | ... | .... | ... | 21.7 | 0.6 | 15.1 | |
| 7. Region of the Great Northern Lakes | 23.6 | 2.7 | 6.7 | 1.2 | .... | ... | .... | ... | 26.5 | 1.5 | 27.6 | 1.0 |
| 8. The Interior Plateau | 17.2 | 1.2 | 3.5 | 0.2 | 11.1 | 0.3 | 22.6 | 1.0 | 17.6 | 0.4 | 17.0 | 0.4 |
| 9. Southern Central Appalachian region | 15.7 | 2.3 | .... | .... | 16.5 | 1.1 | 13.0 | 1.3 | .... | ... | .... | |
| 10. The Ohio River Belt | 12.9 | 2.0 | 1.7 | 0.5 | 10.0 | 0.7 | 12.0 | 1.3 | 9.8 | ... | 10.7 | 0.4 |
| 11. Southern Interior Plateau | 25.9 | 2.7 | .... | .... | 21.3 | 1.1 | 29.3 | 1.5 | | | | |
| 12. South Mississippi River Belt | 36.1 | 4.2 | .... | .... | 33.3 | 1.4 | 37.9 | 2.3 | | | | |
| 13. North Mississippi River Belt | 20.8 | 2.2 | 3.9 | 0.5 | .... | ... | .... | ... | 36.3 | 0.8 | 16.7 | 0.5 |
| 14. Southwest Central region | 26 5 | 4.8 | .... | .... | 24.6 | 2.2 | 34.1 | 2.8 | | | | |
| 15. Central region, plains and prairies | 14.4 | 2.4 | 2.8 | 0.7 | 13.9 | 1.1 | 13.6 | 1.4 | | | | |
| 16. The Prairie region | 18.8 | 2.0 | .... | ... | .... | ... | .... | ... | 19.9 | 0.5 | 30.6 | 0.8 |
| 17. Missouri River Belt | 16.5 | 3.4 | 14.7 | 11.0 | .... | ... | .... | ... | 29.0 | 2.5 | 21.3 | 0.8 |
| 18. Region of the Western Plains | 33.5 | 5.7 | 5.5 | 5.5 | .... | ... | .... | ... | 100.0 | ... | 75.7 | |
| 19. Heavily timbered region of the Northwest | 19.6 | 3.2 | .... | .... | .... | ... | .... | ... | 28.1 | 1.9 | 52.2 | 1.0 |
| 20. Cordilleran region | 37.0 | 2.7 | .... | .... | .... | ... | . .. | ... | 33.1 | ... | 13.3 | 3.5 |
| 21. Pacific Coast region | 29.8 | 1 7 | 3.7 | 1.0 | .... | ... | .... | ... | 33.7 | ... | 15.4 | |
| Total | 19.5 | 2.3 | 4.7 | 1.2 | 13.9 | 0.9 | 24.8 | 1.4 | 14.1 | 0.5 | 18.3 | 0.8 |

If, then, we are to judge as to whether the death-rate in childbed in the practice of a particular physician is to be considered as high or low, we must first know whether the figures relate to hospital or to private practice, and, if the latter, whether it was in the city or in the rural districts. To obtain some standards for comparison we may use the numerous reports found in medical literature in which physicians have given the statistics of their private obstetrical practice, and compare the results with those given in the statistics of maternity hospitals, for which purpose the table on top of page 650 will be found of interest.

Suppose that for the sake of testing the relative efficiency of two different modes of treatment, or of the general progress made during a series of years in therapeutics, we take the statistics of a particular disease; which should be one having a tolerably definite train of

[1] Report on Mortality and Vital Statistics, Pt. II., lxx.

*Deaths in Childbed in City and Rural Practice, before and after 1876.**

| | Before 1876. | | | After 1876. | | |
|---|---|---|---|---|---|---|
| | Cases. | Deaths. | Per 1,000. | Cases. | Deaths. | Per 1,000. |
| America, in city practice | 9,468 | 52 | 5.49 | 2,261 | 33 | 14.59 |
| America, in rural practice | 13,375 | 79 | 5.90 | 2,994 | 26 | 8.68 |
| America, in maternity hospitals | 8,514 | 136 | 15.97 | 6,004 | 143 | 23.81 |
| Great Britain, in private practice, in cities | 60,487 | 239 | 3.95 | 3,500 | 14 | 4.00 |
| Great Britain, in rural practice | 23,170 | 84 | 3.62 | 2,014 | 15 | 7.44 |
| Great Britain, in dispensaries | 156,993 | 570 | 3.63 | 76,554 | 193 | 2.52 |
| Great Britain, in hospitals | 96,382 | 1,626 | 16.87 | 100,997 | 928 | 9.18 |
| Petersburg, General and Maternity Hospital | 33,747 | 1,423 | 42.16 | | | |
| Vienna, Imperial Lying-in Hospital | ..... | ..... | ..... | 15,070 | 106 | 7.03 |

* For prisons and asylums the death-rates should be given for the average daily population in the institution, and not for the number of admissions or for the number of cases disposed of; but in these cases gross death-rates for the whole population are of very little use. It is necessary to have them with distinction of sex and age in order to make comparisons with the death-rates of the general population coming under the same groups.

symptoms, so as to be easily recognized. A disease which it is common to select for this purpose is acute lobar pneumonia. Suppose, now, that in a given group of cases of pneumonia subjected to one method of treatment the mortality is found to be greater than in another series of cases subjected to a different treatment, are we thereby authorized to conclude that that mode of treatment connected with the lowest mortality is really the cause of the low mortality? By no means. Before we can do this, we have to settle the character of the cases, the proportion of those in each group occurring in advanced age, or in intemperate persons, or in those affected with other diseases, or in certain races, because all these circumstances influence the death-rate. We have also to take into account the total number of cases in each group, in order to make an allowance for the probable error due to small numbers. If the two groups of cases have occurred in different localities, or have been treated in different institutions, we have then to take into account the special influences of the locality or institution, as far as it is possible to do so, and not until all these corrections have been made can we fairly estimate the relative influence of the treatment.

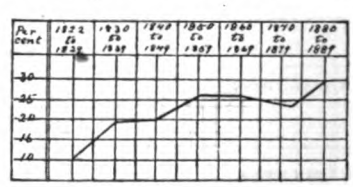
I have collected the statistics of 209,755 cases of pneumonia occurring in this country and in Europe within the last fifty years, as shown by the following table, giving an average death-rate of 21.11 per cent. The distinction of sex is given in 33,904 of these cases, showing a death-rate of 19.86 per cent. in males, and 24.68 per cent. in females.

| | Cases. | Deaths. | Percentage of mortality. |
|---|---|---|---|
| In Civil Hospitals. | | | |
| German and Australian | 44,952 | 9,868 | 21.95 |
| British | 3,467 | 770 | 22.20 |
| Canada | 353 | 91 | 25.77 |
| American | 6,259 | 1,918 | 30.64 |
| India | 133 | 41 | 30.82 |
| Total | 55,164 | 12,688 | 23.00 |
| In Military Hospitals. | | | |
| Austrian (1873–82) | 9,007 | 1,276 | 14.16 |
| United States Army (1877–88) | 2,430 | 455 | 18.72 |
| British Army (Crimea 1854–57) | 590 | 125 | 21.18 |
| United States Army (1861–66), white troops | 61,204 | 14,738 | 24.08 |
| United States Army (1861–66), colored troops | 16,133 | 5,233 | 32.43 |
| Total | 89,364 | 21,827 | 24.42 |
| In the Navies. | | | |
| United States Navy (1873–88) | 933 | 92 | 9.86 |
| British Navy (1872–76) | 1,670 | 194 | 11.49 |
| United States Marine Hospital Service (1872–88) | 3,454 | 573 | 16.58 |
| Total Naval and Marine service | 6,057 | 859 | 14.18 |
| Norway (1880–85), statistics for kingdom | 59,170 | 8,907 | 15.05 |
| Grand total | 209,755 | 44,281 | 21.11 |
| Cases with distinction of sex: | | | |
| Civil hospitals, males | 22,862 | 4,539 | 19.86 |
| Civil hospitals, females | 11,042 | 2,726 | 24.68 |
| Total | 33,904 | 7,265 | |

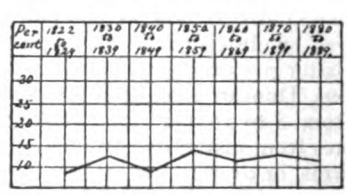
The distinction of deaths by ages for each sex is given in 24,557 cases, and from these data I have calculated the proportion of deaths to cases in each age-group, as shown by the table and diagram on opposite page. The immense importance of age as a factor in the death-rate from this disease is at once apparent.

In the absence of statistics of cases and deaths by ages, we can get very little information from statements of death-rates from pneumonia. For example, the death-rate in the United States Army hospitals from pneumonia from 1877 to 1888 was 18.72 per cent. of the cases treated. Was this a high or a low death-rate? We can only say that it was probably rather below the average, since the average death-rate for males between twenty and fifty years of age is 19.9 per cent. on cases treated. The need of such considerations is well illustrated in a paper by Drs. C. W. Townsend and A. Coolidge, contained in the *Medical News*, July 27, 1889, page 85.

This paper is a discussion of all the cases of acute lobar pneumonia treated at the Massachusetts General Hospital from 1822 to the present time, the figures being divided into periods of ten years, making seven decades in all. The following chart indicates the gross result in



1,000 cases. This would indicate a steady rise in fatality from 1822 to the present time. What are the circumstances which make the cases of pneumonia coming into the hospital during the last few decades more fatal than those which occurred during the first three or four decades? One of the first things investigated was the average ages of the cases of pneumonia admitted in each decade, and the results obtained showed that there was a greater number of patients over fifty years of age in the latter decades, and that the average is steadily increasing. In like manner, the proportion of cases occurring in persons of intemperate habits, or complicated with other diseases, was examined for each decade. The influence of race was also estimated, with the result that in Americans nine per cent., in Irish eleven per cent., and in other foreigners

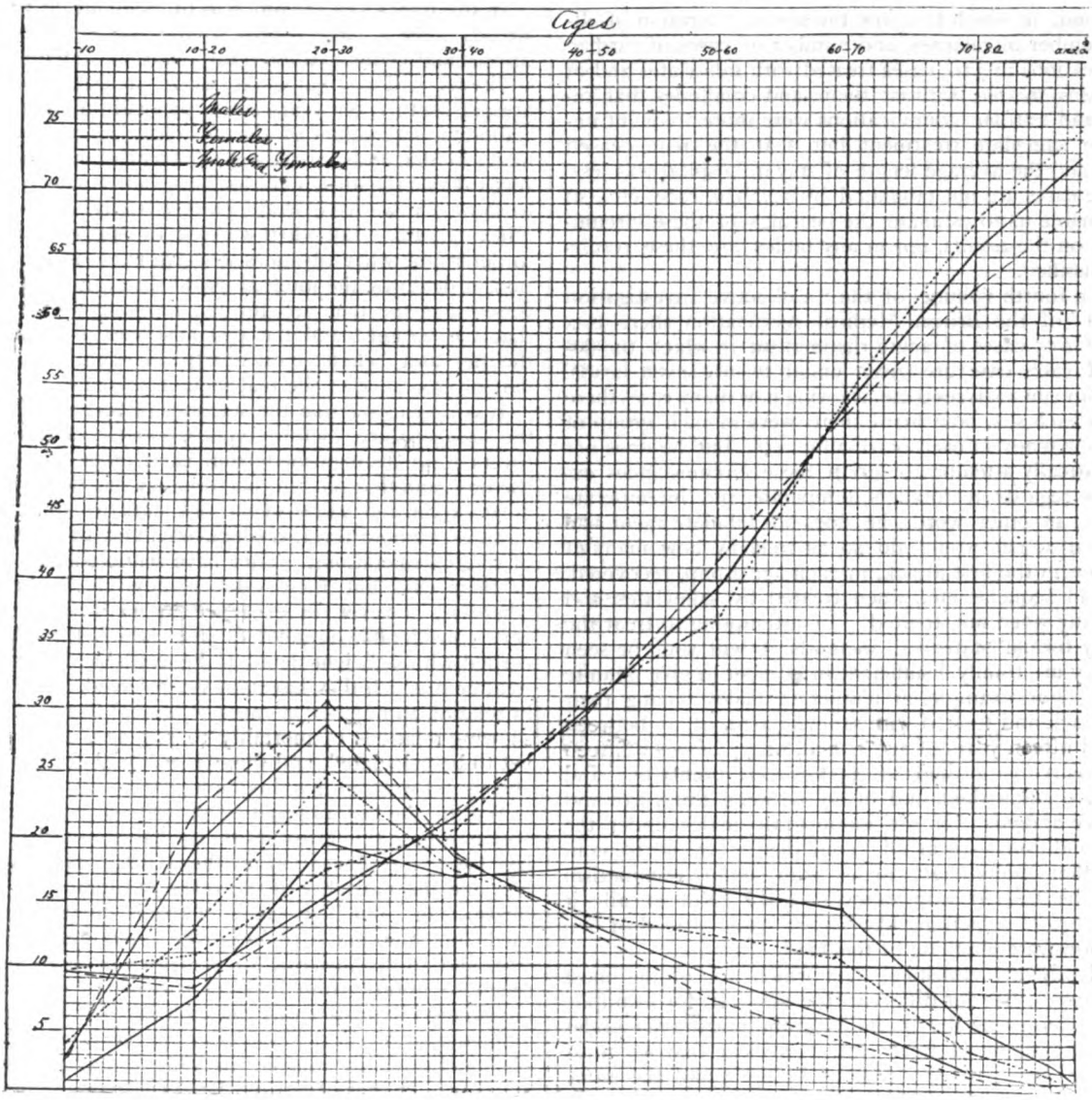


fourteen per cent. were fatal; this was omitting all fatal cases over fifty years of age who were intemperate or complicated. Now if we take the mortality and make the necessary corrections for the influence of age, or proportion of intemperate and complicated cases, we get the above diagram.

*The Proportion of Deaths to Cases in Age-Groups.*

| | Cases. | | | Deaths. | | | Deaths by Ages to Cases by Ages per 100. | | | Cases by Ages to Total Cases per 100. | | | Deaths by Ages to Total Deaths per 100. | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. | Male. | Female. | Total. |
| 6–10 | 445 | 285 | 730 | 42 | 27 | 69 | 9.43 | 9.47 | 9.45 | 2.620 | 3.75 | 2.970 | 1.19 | 1.31 | 1.23 |
| 10–20 | 3,736 | 980 | 4,716 | 320 | 107 | 427 | 8.56 | 10.91 | 9.05 | 22.040 | 12.92 | 19.220 | 9.08 | 5.21 | 7.65 |
| 20–30 | 5,166 | 1,897 | 7,063 | 753 | 334 | 1,087 | 14.57 | 17.60 | 15.39 | 30.480 | 25.01 | 28.790 | 21.36 | 16.26 | 19.49 |
| 30–40 | 3,143 | 1,327 | 4,470 | 685 | 275 | 960 | 21.79 | 20.72 | 21.47 | 18.540 | 17.49 | 18.220 | 19.43 | 13.39 | 17.21 |
| 40–50 | 2,228 | 1,036 | 3,264 | 665 | 316 | 981 | 29.84 | 30.50 | 30.05 | 13.140 | 13.66 | 13.300 | 18.87 | 15.39 | 17.59 |
| 50–60 | 1,294 | 954 | 2,248 | 539 | 353 | 892 | 41.65 | 37.00 | 39.68 | 7.630 | 12.58 | 9.160 | 15.29 | 17.19 | 15.99 |
| 60–70 | 726 | 802 | 1,528 | 387 | 432 | 819 | 53.30 | 53.86 | 53.65 | 4.280 | 10.57 | 6.220 | 10.98 | 21.04 | 14.68 |
| 70–80 | 190 | 268 | 458 | 119 | 183 | 302 | 62.63 | 68.28 | 65.93 | 1.710 | 3.53 | 1.860 | 3.37 | 8.91 | 5.41 |
| 80–90 | 19 | 34 | 53 | 14 | 26 | 30 | 68.42 | 76.47 | 73.58 | 0.110 | 0.44 | 9.210 | 0.36 | 1.26 | 0.69 |
| 90–100 | 1 | .... | 1 | 1 | ... | 1 | 100 00 | ..... | 100.00 | 0.005 | ..... | 0 004 | 0.02 | ..... | 0.01 |
| Unknown | 18 | 8 | 26 | 4 | 6 | 10 | 22.22 | 75.00 | 38.46 | | | | | | |
| Total | 16,966 | 7,591 | 24,557 | .... | .... | . .. | 20.79 | 27.12 | 22.75 | | | | | | |

*Diagram Showing by Sex and Groups of Ages for* 24,557 *Cases of Pneumonia.*




— — — The ratio, per 100, of deaths, at each group of ages, to cases at same age. - - - - - - The ratio, per 100, of cases, at each group of ages, to total cases. —— —— The ratio, per 100, of deaths, at each group of ages, to total deaths.

Here, then, when we set apart the influence of the causes of death which are entirely independent of treatment, we find that there is but little variation of mortality from decade to decade, and if the influence of race were brought in, we could not infer that, upon the whole, there had been any material change in the mortality of pneumonia for the last sixty-eight years, although there have been very great variations in the treatment during that time.

The conclusions arrived at by the authors are as follows :

1. In the 1,000 cases of acute lobar pneumonia treated at the Massachusetts General Hospital from 1822 to 1889 there was a mortality of twenty-five per cent.

2. The mortality has gradually increased from ten per cent. in the first decade to twenty-eight per cent. in the present decade.

3. This increase is deceptive, for the following reasons, all of which were shown to be a cause of a large mortality :

*a.* The average age of the patients has been increasing from the first to the last decade.

*b.* The relative number of complicated and delicate cases has increased.

*c.* The relative number of intemperate cases has increased.

*d.* The relative number of foreigners has increased.

4. These causes are sufficient to explain the entire rise in the mortality.

5. Treatment, which was heroic before 1850, transitional between 1850 and 1860, and expectant and sustaining since 1860, has not, therefore, influenced the mortality rate.

6. Treatment has not influenced the duration of the disease or of its convalescence.

Suppose we try to estimate the relative value of a particular treatment of rheumatism—say, by salicylates. We find several tables in medical literature giving the results, treated by this and other methods. As a type, take the analysis of 1,200 cases treated at Guy's Hospital given by Dr. Hood,[1] in which he gives the average duration of illness, number of relapses, and number of cases of cardiac complications in 350 cases treated with salicylates and in 350 cases treated without them, and concludes that relapses and cardiac complications were more frequent under the salicylate treatment, but that the pain ceased sooner and the average length of stay in hospital was less. But the cases are not tabulated by sex, age, race, etc., so as to enable us to estimate the bearings of these circumstances on the results, nor in any tables are these results thus classified.

In the fourth volume of the "Collective Investigation Record" of the British Medical Association there is a table of 655 cases of acute rheumatism in which the details of each case are given under twenty-seven heads. Dr. Whipham analyzes these, showing how many cases there were in each sex, how many there were in each group of ages, how many in each occupation, etc., but he does not systematically attempt to group these circumstances except as regards teetotallers, temperate and intemperate persons; in other words, he does not tabulate them as a vital statistician would do so as to show how many of each sex in the first attack, in each age-group, recovered, died, had sequelæ, etc., when treated by salicylates, and how many when not treated. In attempting to treat the data by formal statistical methods it will soon be seen that they are totally insufficient in number to give definite results. For example, in temperate males having their first attack and treated with salicylic acid, of 25 between five and fifteen years of age 1 died, of 77 between fifteen and twenty-five 1 died, of 35 between twenty-five and thirty-five none died, and of 17 between thirty-five and forty-five 2 died. Of the intemperate males under the same conditions—16 in all—none died. Are we to conclude that intemperate males with acute rheumatism should be treated with salicylic acid? Not at all—it would require something like 60,000 cases instead of 600 to demonstrate anything of this kind.

Evidently the statistical data which are of the most importance differ for different diseases. If, for example, we are comparing the mortality from pneumonia under different systems of treatment, it is clear that we must have the data with subdivisions by age; and the same would hold good for Bright's disease, and, in fact, for almost all diseases, if the law of decline of vital energy with advancing years holds good. But for cancer the data of sex and race are quite as important as those for age.

An important point in medical and vital statistics is to keep the current record, or what may be called the day-book account, entirely separate and distinct from the classification or modes of tabulation. The current record must be made complete at the time, for if any items are left out they can never be replaced. But this record, once made, may be used in various systems of classification and comparison for many years afterward. If an attempt be made to put this record into the form of a classified return primarily, it is certain to be defective and will not be applicable to researches of another kind.

NOTE.—In attempting a collective investigation for the purpose of securing medical statistics everything depends upon the questions asked, and there are exceedingly few men who are competent to prepare them. As an example of how not to do it, take a set of questions adopted by a certain medical society for investigation (Middlesex East (Mass.) District Medical Society. See *Boston Medical and Surgical Journal*, vol. lxviii., 1863, p. 345). For example, "Bromide of ammonium in atheromatous affections and obesity. Dose, five grains thrice daily." "Iodide of ammonium as a substitute for iodide of potassium; said to have a more absorbent power," etc. "Galium aparine. In epilepsy. Dose, one fluidrachm thrice daily," etc.

In the reviews of the progress of medicine, of which we already have a large supply in the shape of annual addresses and centennial literature, and to which extensive additions will no doubt be made at the close of the present century, ten years hence, you will find more or less elaborate statements of the advances which have been made in diagnosis, pathology, preventive medicine, and surgical therapeutics in all its branches. Also, it is easy to show that we have made great advances in the art of relieving pain. But when we seek by statistical methods to determine what advances we have made in the prevention of death by the internal use of drugs, it must be confessed that the data are, for the most part, wanting, and that the optimist and the pessimist can propound their theories and beliefs upon nearly an equal footing, *i.e.*, that of ignorance of the real facts in the case.

It is easy to see that the statistics of fevers collected in the last century, before typhus, enteric, and relapsing fevers were distinguished from each other, are of little use now, and that modern bacteriology has destroyed, to a great extent, the value of the old statistics of tubercular diseases, typhoid fever, cholera, etc., and of the statistics of surgical operations. They have rendered some service in their day, but their value is now chiefly historical. There is, however, in existence in medical literature a very considerable number of cases which have been recorded with sufficient detail to be available for statistical treatment which they have not yet received. Death-rates in relation to number of cases of special forms of disease showing relations of mortality to sex, age, and race, are yet to be calculated, and there is material for some good and useful work in this direction.

Within the last twenty-five or fifty years, in civilized communities, the gross mortality has diminished, there has been a prolongation in the average expectation of life, and the mortality of the years of infancy has greatly diminished. But how much of this is due to preventive medicine, how much to improved conditions of habitation and to the lowering of the price of food, and how much to improved methods of treatment? Dr. Sweifel endeavored to answer this question in a lecture on "The Influence of Medical Knowledge on the Life of the People," delivered in Leipsic in 1887 ("Der Einfluss der ärztlichen Thätigkeit auf die Bevölkerungsbewegung").

Taking, as a basis for his calculations, the figures of Bavaria for ten years, and those of Saxony for thirteen years, he found that for 100,000 living population the average number of deaths from tuberculosis increased from 250 to 258; from inflammation of the lungs, from 222 to 270; from croup and diphtheria, from 98 to 123. He remarks that these are saddening figures. In spite of the sanitarians and health-resorts, in spite of ventilation, new methods of treatment by inhalation, compressed air, etc., the number of men who die from diseases of the respiratory organs is steadily increasing, and he queries whether Süssmilch was not right in his phrase "göttliche Absterbeordnung," divine law of death.

On the other hand, he shows that the mortality from

[1] British Medical Journal, December 31, 1881, p. 1119.

typhus has fallen from 62 to 34. But the question is, whether this is due to diminished prevalence of the disease or to a diminished mortality in the same number of cases of the disease due to improved medical treatment. It may be noted in this connection that the chief effect of improved sanitation appears in the lessened mortality in children under five years of age, and that it is chiefly in the mortality occurring after these ages that we are to look for the influence of improved medical treatment. In examining this, however, it is to be remembered that improved sanitary conditions affecting chiefly infants, by preserving a number of feeble and sickly children, tend to produce a higher rate of mortality in succeeding years. In cases admitting of surgical treatment, and in childbirth, there can be no doubt as to the diminished mortality in the practice of those who use the best accepted modern methods; but these methods are not yet used scientifically by half of the profession, and the results are not perceptible in the general death-rates thus far collected.

It must be admitted that the greater part of the increased expectation of life is probably due to better food, purer water, greater cleanliness, and improved methods of preventing the spread of contagious diseases. If we look at the curves representing the loss of life in large masses of people at different times and places, we see that the laws of life and death have but a narrow range of variation after the age of infancy has passed, and that improvements in therapeutics have lifted the lines but very little. They have lessened suffering greatly, but they have not greatly deferred death.

In our present state of knowledge there are certain forms of disease and derangement of organs whose tendency is to recover without any treatment, or in spite of bad treatment. There are also certain diseases and derangements which are incapable of cure by any known method of treatment. Otherwise, man would not be mortal. Between these two classes is a small number of cases of disease the result of which depends on the treatment. In order that medical statistics may give us any information in regard to this last class we have got to have some idea as to the proportion of each of the two other classes.

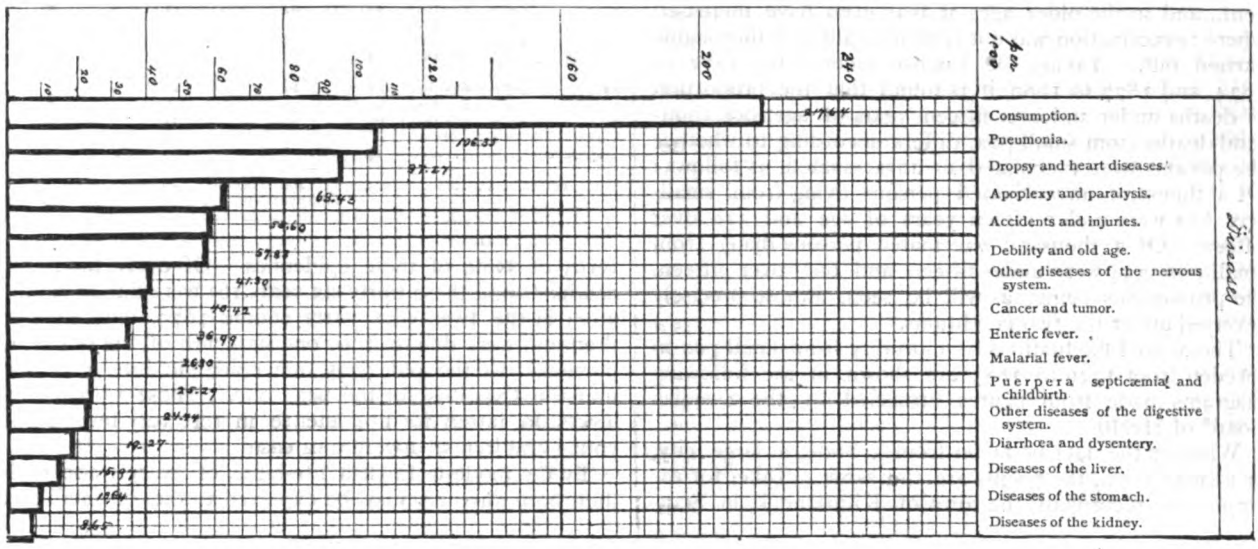
Out of the 756,803 deaths reported in the United States in the last census year, 355,575 were of persons of twenty years of age and upward. The above table shows the proportion of these deaths which were due to sixteen groups of causes, which produced in all eighty-five per cent. of them, and the proportions due to each of these is indicated by the diagram before you.

I leave it to you to say for which of these diseases, or classes of disease, it is most likely that progress is to be made in the line of prevention, and for which we have the best reason to hope for improved methods of cure after they are once established.

*Total Deaths from Known Causes over Twenty Years of Age* = 346,280 (*Census of* 1880).

| | Deaths per 1,000 of deaths from known causes at twenty years of age and over. | Deaths over twenty years of age (unknown deducted). | Deaths per 10,000 of population of twenty years of age and over. |
|---|---|---|---|
| Consumption | 217.64 | 75,367 | 28.94 |
| Pneumonia | 106.35 | 36,827 | 14.14 |
| Dropsy and heart diseases | 97.27 | 33,683 | 12.93 |
| Apoplexy and paralysis | 63.43 | 21,965 | 8.43 |
| Accidents and injuries | 58.60 | 20,295 | 7.79 |
| Debility and old age | 57.88 | 20,045 | 7.69 |
| Other diseases of the nervous system | 41.30 | 14,302 | 5.49 |
| Cancer and tumor | 40.42 | 14,000 | 5.37 |
| Enteric fever | 36.99 | 12,811 | 4.92 |
| Malarial fever | 26.30 | 9,110 | 3.49 |
| Puerperal septicæmia and childbirth | 25.29 | 8,759 | 3.36 |
| Other diseases of the digestive system | 24.44 | 8,464 | 3.25 |
| Diarrhœa and dysentery | 19.27 | 6,674 | 2.56 |
| Diseases of the liver | 15.97 | 5,531 | 2.12 |
| Diseases of the stomach | 10.64 | 3,686 | 1.41 |
| Diseases of the kidney | 8.65 | 2,998 | 1.15 |

*Diagram showing Proportion of Deaths from Specified Diseases to* 1,000 *of Total Deaths from Known Causes of Adults, Twenty Years of Age and over* (*Census of* 1880).




A very good illustration of some of the ways in which lies can be told with statistics may be found in the various books and papers which have been produced in connection with the anti-vaccination controversy.

In order to understand the relations between vaccination and small-pox, it is necessary to have the death-rates from small-pox given for different periods of life—that is, by age. In this country and in Great Britain we have no data as to the deaths by small-pox by different ages prior to the introduction of vaccination, because the registration of deaths by ages has only been carried on for a little over fifty years. We can, however, for Great Britain, compare the statistics of vaccination for three different periods—the first from 1847 to 1853, in which gratuitous vaccination was provided for the people, but it was purely an optional matter with them whether they should make use of it or not; from 1854 to 1871, vaccination was obligatory by law, but this was mainly theoretical, since the law was practically not enforced; from 1872 to 1880, when the vaccination was rigidly enforced.

The table on top of page 654 shows the results of this difference.

Before the introduction of vaccination there were but few persons who did not have the disease at some time in their lives. It appeared in epidemic waves over Europe, usually at intervals of from five to seven years, being about the period of time required to accumulate, by

*Mean Annual Deaths from Small-pox at Successive Life Periods, per 1,000,000 living at each Sub life Period.*

| Sub-period. | AGE. | | | | | | |
|---|---|---|---|---|---|---|---|
| | All ages. | 0— | 5— | 10— | 15— | 25— | 45 and upward. |
| 1. Vaccination optional (1847–53) | 305 | 1,617 | 337 | 94 | 109 | 66 | 22 |
| 2. Vaccination obligatory but not efficiently enforced (1854–71) | 223 | 817 | 243 | 88 | 163 | 131 | 52 |
| 3. Vaccination obligatory, and more efficiently enforced by vaccination officers (1872–80). | 156 | 323 | 186 | 98 | 173 | 141 | 58 |
| Entire period of obligatory vaccination (1854–80) | 198 | 633 | 222 | 92 | 167 | 135 | 55 |

births, a sufficient amount of susceptible persons to enable an epidemic to make headway. Of course, then, the great majority of persons had the disease in infancy, or in early childhood, and a large proportion of these died. So that in those days the small-pox mortality, in the early years of life, was high, while those who survived were either protected from future attacks or presented a certain amount of immunity to the poison of the disease, so that the small-pox death-rate of the higher ages was then low. When vaccination came to be general, the young were protected, but were not protected as permanently and completely as would have been effected by an attack of small-pox. The result of this was that the death-rate from small-pox under five years of age fell eighty per cent., while from five to ten years of age it fell forty-five per cent., and in the older ages it may even have increased where revaccination was not systematically and thoroughly carried out. Taking the English records for 1872 to 1874, and 1877 to 1880, it is found that the proportion of deaths under and over fifteen years of age, per thousand deaths from small-pox, differs according to whether the persons were vaccinated or unvaccinated, as follows: Of a thousand unvaccinated persons dying from small-pox 672 were under fifteen years of age and 328 over fifteen. Of a thousand vaccinated persons dying from small-pox 334 were under fifteen and 666 over fifteen, the proportions being, as will be seen, almost precisely reversed under the two conditions.

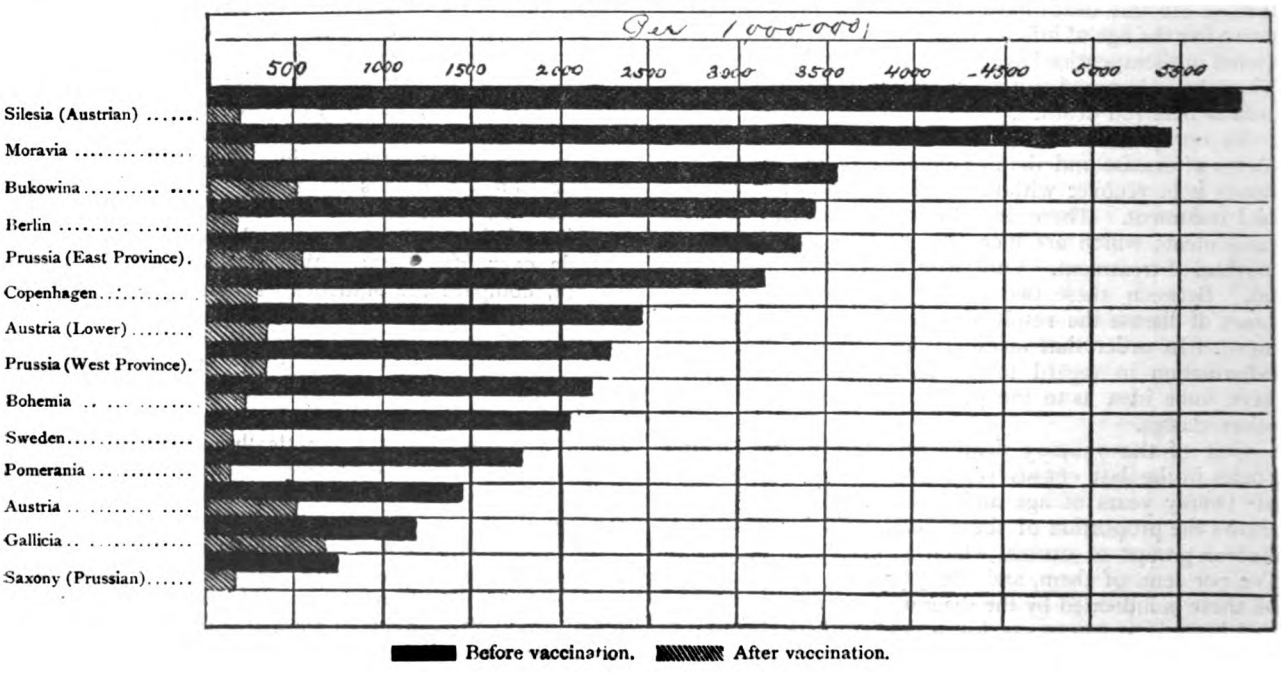
The annual fluctuations of mortality from small-pox in Sweden from 1749 to 1883 are shown in the following diagrams made from figures furnished by the Swedish Board of Health.

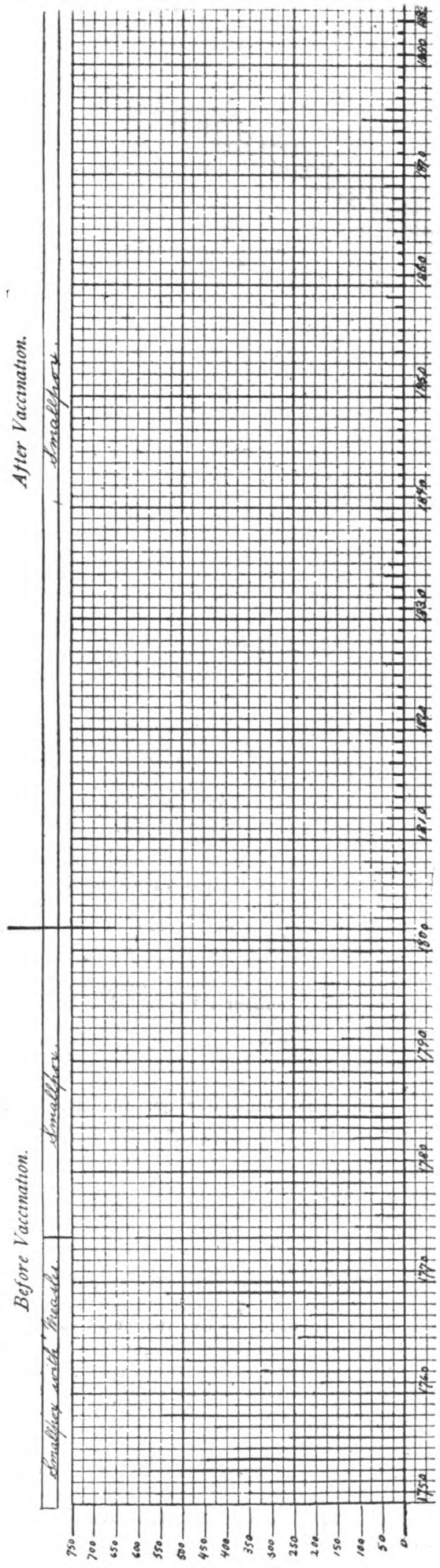
Whether the data be taken from a State, a large city, or a small town, the results are the same. Take, for example, the records of the town of Kilmarnock, in Scotland. For thirty six years, from 1728 to 1764, this place had an average population of 4,200, and a very accurate register of the births and deaths was kept. During these thirty-six years there were nine epidemics of small-pox, succeeding each other at regular intervals of about four years—just the time required to raise a fresh crop of unprotected victims sufficiently numerous to spread the contagion. The following table will give an idea of the severity of some of these epidemics. Of every thousand deaths during these thirty-six years 161 were due to small-pox; in the twenty-six years ending 1879, only 9.9 per thousand were due to it, or one-sixteenth of the old proportion. In the old days one epidemic left very few unmarked victims for the next one. Those who recovered were pitted for life, and there were very few except young children who were unscarred.

| Date of epidemic. | Interval since height of former epidemic. | Total deaths. | Deaths in children born since height of former epidemic. | Deaths in children who had passed safely through one epidemic. | Deaths in individuals who had passed through more than one epidemic. |
|---|---|---|---|---|---|
| 1728–29... | Unknown. | 66 | .. | .. | .. |
| 1733..... | 4 y'rs 5 months. | 45 | 44 | 1 | 0 |
| 1736..... | 3 y'rs 5 months. | 66 | 58 | 7 | 1 |
| 1740..... | 3 y'rs 7 months. | 66 | 60 | 5 | 1 |
| 1744–45... | 4 y'rs 8 months. | 74 | 67 | 6 | 1 |
| 1749–50... | 5 years. | 84 | 79 | 4 | 1 |
| 1754..... | 4 y'rs 6 months. | 95 | 84 | 11 | 0 |
| 1757–58... | 3 y'rs 2 months. | 45 | 39 | 6 | 0 |
| 1762..... | 4 y'rs 8 months. | 66 | 53 | 11 | 2 |
| Cases occurring between epidemics ..... | | 14 | 8 | 5 | 1 |
| Totals..... | | 555 | 492 Or 87 per cent. | 56 Or 11 per cent. | 7 Or 1 per cent. |

By the modern English life-table, of every 1,000 children born alive 2.3 may be expected to die of small-pox

*Diagram showing for Different Countries, etc., the Approximate Average Annual Death-rate from Small-pox per 1,000,000 of Living Population Before and After the Introduction of Vaccination.*





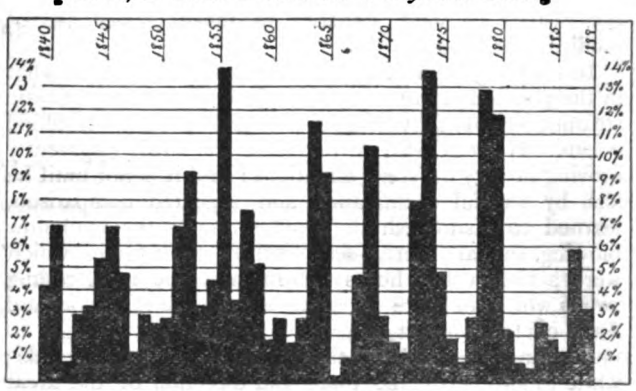

before reaching five years of age. In the old Kilmarnock table the proportion was 116 to every 1,000.

If you compare the death-rate per thousand of living population in an epidemic of small-pox occurring in a city in the United States in recent times with that of an epidemic occurring in a city in the last century, you will probably find that the death-rate was greater in the modern city than in the ancient one. Perhaps two-thirds of the people in the modern city were properly vaccinated—in the ancient city none were vaccinated. Are we to conclude that partial vaccination increases the death-rate from small-pox? Yes, for a single epidemic year; but if you take a period of twenty years or more for your comparison, you find the death-rate much lower in the vaccination than in the ante-vaccination period. Why is this? Because in the ante-vaccination period the adults had been through several epidemics of small-pox, and had either had the disease and survived, or had proved insusceptible to the virus, being, in either case, protected. The only class of the population in much danger from small-pox in those days were the young children born since the last epidemic, less than ten years before. But in the modern community, partially protected by vaccination, there has accumulated a considerable number of unprotected adults during the long periods which now elapse without an outbreak, and these increase the fuel for flame, and consequently the death-rate. Comparisons of small-pox statistics for single years are therefore almost worthless.

The results of vaccination may be indicated in another way: At the commencement of its organization, in 1761, the Equitable Society for Insurance of Lives, the oldest and most important of life-insurance companies, charged 12½ per cent. extra for all persons who had not had the small-pox. In 1781 this was reduced to eleven per cent. extra.

In 1802 it was resolved "that the directors be empowered to grant policies of assurance upon the same terms to persons who aver in their declaration that they have had the cow-pox, as to those who aver in their declaration that they have had the small-pox. But if such person shall die afterwards of the *small-pox*, then such policy shall be void." In 1823 the words, "but if such person shall die afterwards of the small-pox, then such policy shall be void," was stricken out.

*Percentage of Deaths from Scarlet Fever, Providence, R. I., in Total Deaths for Forty-nine Years.*

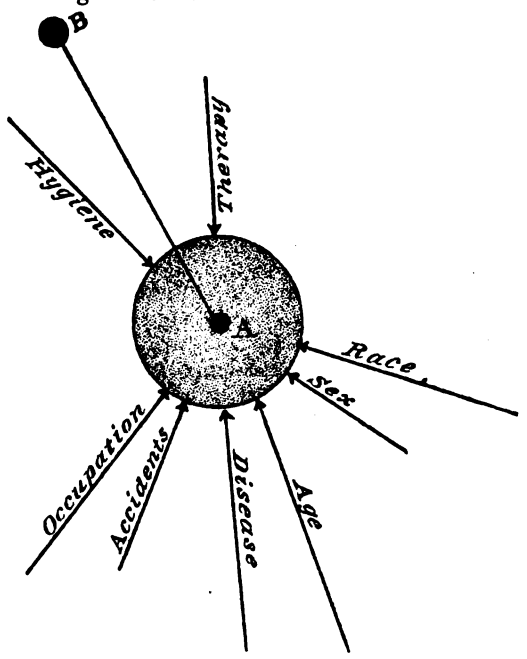



This somewhat irregular periodicity in the appearance of these contagious diseases, of which one attack affords more or less protection against a subsequent attack, is shown not only in these diagrams of the prevalence of small-pox, but also from other similar diseases; as, for instance, in scarlet fever, as shown by the diagram before you, which indicates the percentage of deaths from this cause to the total deaths occurring in Providence, R. I., for each of forty-nine years. You will see that the epidemics occur irregularly at intervals of about five or six years, with somewhat greater mortality at intervals of about ten years.

In vital statistics, as in other branches of social science,

it is not true that the effects of causes acting in combination are equal to the sum of the effects of each of the causes acting separately. Different causes of death having no relation to each other do not have a joint effect which is equal to the sum of the effects of each cause taken separately, and it is therefore difficult to bring the phenomena of vital statistics within the boundaries of mathematical formulæ. In the doctrine of this kind of averages time and number are not convertible terms.

Statistics apply to masses of men, to communities—not to individuals. We find a mass of matter moving in a certain direction with a certain velocity, and endeavor to calculate the direction and amount of the forces which have produced this result. In like manner we may consider the tendency to death in a community as a resultant of several forces as indicated in the diagram, and endeavor to estimate the influence of each of these forces in producing the result.




It is evident that we can know little of the influence which hygiene or therapeutics have had in shortening the line A B, if we know nothing of the length and direction of the other lines of force, and hence we must have the conclusions of vital statistics to make proper use of medical statistics.

In studying medical and vital statistics one is somewhat in the position of a man on the deck of a large Atlantic steamer out of sight of land and gazing on the troubled ocean. He sees many waves, large and small, apparently moving in very different directions; and it is not until he has, by careful examination and repeated comparison, learned to distinguish the ripples due to the wind now blowing, the larger cross-seas resulting from forces which were acting a few hours before, and the long, rolling swells which indicate to some extent the direction and force of the tempest of yesterday, that he can begin to understand the roll of the ship on which he stands; while to appreciate the force and direction of the great current which is sweeping with it all the troubled water and the ship itself, requires skilled observation with special instruments, and the use of charts which embody the experience of hundreds of voyages. So also in viewing the records of human life, disease, and death, the variations which are at first most perceptible are often those which are most superficial, and which give little or no indication of the magnitude and direction of the movement of the great masses beneath.

*Appendix.*

The most valuable sources for data relating to vital statistics, and in many respects to medical statistics also, are those contained in the "Reports of the Registrar-General of England" for the last forty years, and especially in the supplement volumes which have been issued every ten years during that period. Next to these, for matters relating to this country, come the statistics of the State of Massachusetts for the last forty years, the statistics of New Jersey for the last ten years, the mortality and vital statistics of the Tenth Census, and the statistics of Boston, Philadelphia, New York City, and of the District of Columbia. Especially valuable, also, are the vital statistics of Sweden, of Belgium, of Italy, as published for the last six or seven years; of Norway, of Switzerland, of Prussia, and of many of the large cities of Western Europe.

The following works will also be found useful for reference:

Süssmilch, J. P.: Die göttliche Ordnung in den Veränderungen des menschlichen Geschlechts, aus der Geburt, dem Tode und der Fortpflanzung desselben erwiesen, 2 Theile. Vierte verbesserte Ausgabe, genau durchgesehen und näher berichtigt von Christian Jacob Baumann. 8vo. Berlin, 1775.

Niles, N., Jr., and Russ, J. D.: Medical Statistics; or, A Comparative View of the Mortality in New York, Philadelphia, Baltimore, and Boston, for a Series of Years: Including Comparisons of the Mortality of Whites and Blacks in the two former Cities; and of Whites, Free Blacks, and Slaves in Baltimore. 8vo. New York, 1827.

Neison, F. G. P.: Contributions to Vital Statistics, being a Development of the Rate of Mortality and the Laws of Sickness, from Original and Extensive Data; with an Inquiry into the Influence of Locality, Occupations, and Habits of Life on Health; an Analytical View of Railway Accidents; and an Investigation into the Progress of Crime in England and Wales. Third edition, 4to. London, 1857.

D'Espine, M.: Essai analytique et critique de Statistique mortuaire comparée, renfermant les Monographies étiologiques des Accidents et de la plupart des Maladies mortelles, et expliquant les Lois générales de la Mortalité des Peuples par les Influences combinées des diverses Causes de Mort. 8vo. Genève, 1858.

Ansell, C., Jr.: On the Rate of Mortality at Early Periods of Life, the Age at Marriage, the Number of Children at a Marriage, the Length of a Generation, and other Statistics of Families in the Upper and Professional Classes. 8vo. London, 1874.

Bertillon: La Démographie figurée de la France, ou Étude statistique de la Population française, avec Tableaux graphiques traduisant les principales Conclusions. Mortalité selon l'Age, le Sexe, l'État-civil, etc., en chaque Département, et pour la France entière, comparée aux Pays étrangers. Folio. Paris, 1874.

Ollendorff, A.: Die periodischen Sterblickeits-Schwankungen in ihrer Bedeutung für die Medicin, Arch. f. path. Anat., etc. Berlin, 1886, cv., 110–128, 1 pl.

Bertillon, Jacques: Article "Démographie" in Encyclopédie d'Hygiène et de Médecine publique. 8vo, tome 1, p. 119. Paris, 1889.

In addition to the census and registration records we have another important source of information in vital statistics, namely, the records of life and health insurance companies. These are not as well known to physicians generally as they should be, and I wish, therefore, to call special attention to the two most valuable compilations of them now in existence, namely, the "Insurance Cyclopædia," commenced by Cornelius Walford, of which five volumes have now been published; and the "System and Tables of Life Insurance based on the Experience of thirty American Life Offices," by Levi W. Meech, published in 1881.

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Seven Cases of Leprosy have been found in Minnesota.

An Epileptic Medical Student in this city was detected eating a piece of human flesh in the dissecting-room, while suffering from temporary mental aberration.

## Original Articles.

# TUBERCULOSIS OF AN ARTERY, ILLUSTRATING ONE OF THE MODES OF DISSEMINATION OF TUBERCLE BACILLI IN THE BODY.

Being a Specimen Presented at a Meeting of the New York Pathological Society, June 12, 1889.

By JOHN S. ELY, M.D.,
NEW YORK.

Even before the discovery of the tubercle bacillus, in 1882, considerable attention had been directed to endeavors to explain the mode of dissemination of the supposed poison of tuberculosis throughout the body. Belief in organized specific virus as the probable cause of infectious disease had been steadily growing since the study by Davaine of the bacillus of anthrax, and in 1878 this belief received most substantial support from the investigation of Koch into the nature of the infectious diseases of wounds. It is therefore quite natural that many investigators should have been at work upon the various problems connected with the etiology of tuberculosis, most of them imbued with belief in the existence of some specific organism as its exciting cause. As has been said, one of these problems had to do with the mode of dissemination of the virus in the body, more especially in cases of acute miliary tuberculosis. The fact that, even before the discovery of the specific virus, a rational and accurate description of at least one way in which this may occur had been offered, is striking demonstration of the usefulness of careful study of the lesions of the infectious diseases, even though for a time all attempts to discover their specific micro-organisms may be vain. Let us hastily glance at some of the more important steps in the proof that, in most cases of acute miliary tuberculosis, it is through the medium of the circulation that the infectious material finds dissemination.

In 1879 it was shown by Mügge [1] that in acute miliary tuberculosis of the lungs it was not uncommon to find miliary tubercles on the intima of small veins in the lung. In nine out of ten cases examined, he succeeded in demonstrating their presence. During the same year Weigert [2] published reports of three cases of acute miliary tuberculosis, in which old foci of tubercular inflammation which had undergone cheesy degeneration were found to have extended to large veins at the root of the lungs, setting up in them tubercular phlebitis. He drew attention to the ease with which large quantities of cheesy matter might, in such cases, find entrance into the circulation. The next year, in the study of a case of tubercular meningitis, Cornil [3] observed small tubercles in the intima of many of the meningeal vessels; and a little later, Kiener [4] repeated this observation in the case of other serous membranes. In 1882, only a short time before the publication of Koch's discovery, Weigert [5] added a series of most instructive cases to those published in 1879, in which he found abundant substantiation of the conclusions then drawn. In six of the cases acute miliary tuberculosis was shown to have resulted from infection of the blood from large vein tubercles, and in two cases the thoracic duct was found to have been the point of entrance of the virus into the circulation. In both of these Weigert was able to discover small tubercles on the intima of veins in various parts of the lungs. The next year he [6] reported the finding of tubercle bacilli in the lesions of all these cases.

In 1883 we begin to have accounts of the finding of tubercle bacilli in the blood. The first of these we owe, I believe, to Babes and Cornil.[1] In 1884 similar observations were made by Weichselbaum [2] in three cases of acute miliary tuberculosis. The same year Lustig [3] applied the knowledge gained from these investigations to diagnostic uses, finding tubercle bacilli during life in the blood of a patient in whom the diagnosis of acute miliary tuberculosis had been suspected, but could not otherwise be proved. In 1885 these observations were confirmed by Ulacacis,[4] Sticker,[5] Rütimeyer,[6] and Doutrelepont.[7]

Up to the time of which we are speaking, it was as the result of involvement of veins, more especially, that infection of the blood was supposed to occur. In 1886 Weigert [8] showed that this is by no means always the

Fig. 1.—Tubercular Arteritis, the Result of the Encroachment of an Area of Tubercular Inflammation upon an Artery in the Lung. (From Delafield and Prudden's "Handbook of Pathological Anatomy.")

case; that arteries are often seriously compromised by surrounding tubercular masses. He reported at the same time the case of a child, four years of age, in whom this had led to the production of acute miliary tuberculosis. He was almost immediately confirmed in this by Nasse [9] and Durand-Fardel,[10] both of whom found, in addition,

[1] Mügge, F.: Ueber das Verhalten der Blutgefässe der Lunge bei disseminirter Tuberculose. Virchow's Archiv, lxxvi. (1879), 243.

[2] Weigert, C.: Zur Lehre von der Tuberculose und verwandten Erkrankungen. Virchow's Archiv, lxxvii. (1879), 269.

[3] Cornil, V.: Contributions à l'étude de la tuberculose. Journal de l'anat. et de la physiol., xvi. (1880), 313.

[4] Kiener: De la Tuberculose dans les séreuses chez l'homme et chez les Animaux inoculés. Archiv. de Physiol. norm. et path., 2me Série, vii., 790 and 894.

[5] Weigert, C.: Ueber Venentuberkel und ihre Beziehungen zur tuberculösen Blutinfection. Virchow's Archiv, lxxxviii. (1882), 307.

[6] Weigert, C.: Die Wege des Tuberkelgiftes zu den serösen Häuten. Deutsche med. Woch., 1883, No. 24, p. 453.

[1] Babes et Cornil: Note sur les Bacilles de la Tuberculose et sur leur Topographie dans les Tissus altérés par cette maladie. Arch. de physiol. norm. et path., 1883, p. 456. Babes: Der erste Nachweis der Tuberkelbacillen in Gefässen und deren Anwendung. Deutsche med. Woch., 1883, p. 514.

[2] Weichselbaum: Ueber Tuberkelbacillen im Blute bei allgemeiner Miliartuberculose. Anzeiger d. Ges. Wiener Aerzte, 1884, No, 19.

[3] Lustig, A.: Ueber Tuberkelbacillen im Blute bei an allgemeiner acuter Miliartuberculose Erkrankten. Wiener med. Woch, 1884, No. 48.

[4] Ulacacis, G.: Sulla presenza del bacillo tubercolare nel sangue. Gaz. degli ospidali, 1885, No. 25; Centralbl. f. klin. Med., 1885, No. 30, p. 517.

[5] Sticker, G.: Ueber das Vorkommen von Tuberkelbacillen im Blute bei der acuten Miliartuberculose. Centralbl. f. klin. Med., 1885, No. 26, p. 441.

[6] Rütimeyer, L.: Ueber das Vorkommen von Tuberkelbacillen im Blute und Milzsaft bei allgemeiner acuter Miliartuberculose. Centralbl. f. klin. Med., 1885, No. 21, p. 353

[7] Doutrelepont: Fall von Meningitis tuberculosa nach Lupus. Tuberkelbacillen im Blute. Deutsche med. Woch., 1885, No. 7, p. 98.

[8] Weigert, C.: Ausgedehnte umschriebene Miliartuberculose in grossen offenen Lungenarterienästen. Virchow's Archiv, civ. (1886), 31.

[9] Nasse, D.: Beiträge zur Kenntniss der Arterientuberculose. Virchow's Archiv, cv. (1886), 173.

[10] Durand-Fardel, R.: Les Bacilles dans la Tuberculose miliaire. Tuberculose glomérulaire du Rein. Arch. de Physiol. norm. et path., 1886, No. 4, p. 393.

miliary tubercles on the intima of small arteries in the kidneys.

Tubercular endocarditis was described during the same year by Heller,[1] in a paper read before the Congress of German Naturalists and Physicians at Berlin.

This, then, completes the proof, for these observations have been repeatedly confirmed. We have seen that veins, arteries, and thoracic duct have been observed to be involved in masses of tubercular tissue; that miliary tubercles have been found in the intima of veins and arteries throughout the body, and in the endocardium; that these lesions have all been found to contain tubercle bacilli; and, lastly, that tubercle bacilli have been found in the blood in cases of acute miliary tuberculosis, both during life and after death.

The specimen which I present to-night illustrates one of the modes in which infection of the blood may occur. It is a section of the upper lobe of the left lung of a child who died of acute miliary tuberculosis. Autopsy revealed very large and cheesy bronchial glands, and scattered through both lungs were many miliary and submiliary tubercles. At the apices and in the vicinity of the bronchial glands cheesy masses of conglomerate tubercle were found. But what is of especial interest is the encroachment of many of the tubercles upon the walls

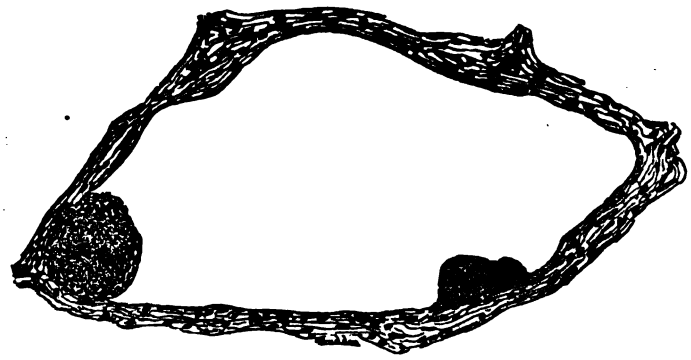

FIG. 2.—Dr. Northrup's Specimen illustrating Vein Tubercle.

of blood-vessels. In places the walls of veins are affected; in others those of arteries. The most beautiful of these, and the one to which I desire to direct attention more especially, is a small artery near the base of the upper lobe, which is encroached upon by a miliary tubercle immediately adjoining it, and in which a tubercular arteritis is seen. The wall of this vessel is infiltrated with small round cells, and, projecting into its lumen, and partially occluding it, is a mass of small round cells, in the centre of which cheesy matter is distinctly visible. It will readily be appreciated how slight a variation in arterial pressure might be sufficient to cause this degenerating mass to be thrown into the circulation, and carried by it to any part of the body. The accompanying drawing (Fig. 1), made from the specimen by Dr. Prudden, represents the condition which I have endeavored to describe.

Tubercle bacilli have been found in these lesions in other sections from the same lung.

In conjunction with the specimen of tubercles in a vein just presented by Dr. Northrup, these specimens are an interesting corroboration of the theory whose development I have endeavored to trace; the first (Dr. Northrup's, Fig. 2) showing the effect produced by the lodgement of tubercle bacilli on the intima of a vein, one of the ways in which they may have entered the blood-current being exemplified by the second.

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THE ARCHIVES OF SURGERY.—Mr. Jonathan Hutchinson has started a quarterly surgical journal under the above title, to which he will be the sole contributor. Mr. Hutchinson expects to continue his publication for about three years.

[1] Heller: Ueber tuberculöse Endocarditis. Tagebl. d. 59 Versamml. deutscher Naturforscher und Aerzte zu Berlin, 1886, p. 420.

## SLOW PULSE.

BY NATHAN MAYER, M.D.,

HARTFORD, CONN.

THIS sketch describes, in its main features, a case of very slow pulse, and hazards some diagnostic opinions in regard to it. The subject is not one of wide practical applicability, but it is one of exceeding interest as far as the causation and prognosis are concerned.

A man, aged sixty-five, who has not been sick for fifteen years of aught save the chance minor disturbances of an every-day life, complained one day of œdema of the right foot with some pain, and was ordered a saline cathartic. Next day, in conversing with a friend, he suddenly became unconscious and fell to the ground. Recovery of consciousness and strength took place in ten minutes, with ordinary restoratives. Then the pulse was found to be heavy, full, and twenty-four beats to the minute. The recovery of sight, speech, hearing, and intelligence was perfect; the skin sensibility, normal. No loss of sensation anywhere, no impairment of power, no dulling of the sensorium, were to be detected. In short, the nervous symptoms were *nil*. Nor did gastric symptoms develop. No vomiting, pain, flatulence, were at all present; at least at first. And in the next following days, with the pulse remaining as at first, the general improvement was so marked that the patient demanded to be let up to attend to his business, and to be fed as usual, which, however, was denied him.

At this period it became desirable to determine what had caused this slowing of the pulse, which varied from twenty-four to thirty, but usually held twenty-eight beats per minute.

A slow pulse, even quite slow, has been found in sharp attacks of jaundice, when the blood was acutely vitiated by admixture with the foreign excretion. It has been found as a result of pressure on the brain, no matter from what cause—displaced bone or effused blood. A slow pulse is also thought to be the likely result of an abnormal excitation of the pneumogastric nerve, the inhibitory nerve of the heart, the nerve which regulates, slows, and governs its movements. When the nerve is cut the heart-beats increase rapidly, beyond counting, and, in fact, the organ works without control. When the nerve is unduly irritated the hold-back force is increased, and the heart slows up in the same measure. When the pneumogastric is subjected to a faradic current the heart will stop altogether. I may remark here that this quality of the pneumogastric is by some physiologists attributed to the nerve-fibres it receives from the spinal accessary, and that a detachment of the latter nerve from its origin near the medulla oblongata seems to have the same effect as a cutting of the pneumogastric. On the other hand, the branches of the sympathetic, with their ganglia, are regarded as the main acceleratory nerves, and a degeneration of those might have an effect similar to an irritation of the par vagum, the inhibitory nerve.

Finally, a very slow pulse may result from states of great debility—though it is more likely to be very fast and small—or it may result from weakness of the heart-walls and inability to respond readily to the impression of the entering blood. This weakness may be a simple dilatation with thinning of the muscular walls, or it may be a fibrous or a fatty degeneration of these walls, or it may be a thinning and anæmia of the walls without dilatation or degeneration.

In the consideration of these points in reference to my patient I was able at once to exclude icterus; next, to close out any brain-pressure; for the perfect normality of the mental power and of the reflex actions, of the functions of mobility and of sensation, showed that there was no pathological condition of the nervous centres. A pressure upon, or an excitation of, the pneumogastric nerve was, after some reflection, declared against on the basis that 18 to 20 regular respirations per minute, and no gas-

tric or laryngeal disturbances cleared of suspicion that nerve which supplies lungs, stomach, liver, and larynx equally with the heart. Being thus especially referred to the latter organ, the heart, a very careful examination was made. The results demonstrated no notable extension of area, that is to say, nearly normal proportions: No displacement; a slight mitral murmur covering the beginning of the systole, and best heard over the left auricle; a faint and muffled beat, and no perpetuation of the murmur into the aorta.

The diagnostic deductions derived from this were: No dilatation and no enlargement of the organ; no pericardiac effusion; no valvular disease—for the slight murmur was attributed to another cause—and a thinned and degenerated condition of the walls of the heart. When the muscle of this organ undergoes a degenerative process of a fatty nature, it is either in sympathy with a general adiposity of the system or in consequence of interference with its special nutrition. In this case there was no pronounced fattiness, although the patient was in good flesh, and it was left to the judgment to attribute the disturbance to an embolus or to an atheromatous condition of the arteries supplying the heart. If there had been a great development of fat in the system generally, that condition known as fatty infiltration, and which consists of a ponderous deposit of fat around the heart, and interpenetration of fat between the bundles of muscular fibre, might have been credited with weighing down and impeding the organ. If there had been a weak pulse, unsteady or irregular, the diagnosis of degeneration of the muscle-fibre into adipose tissue would have been warranted. But, with a muffled impulse, there was a full, massive pulse—yet a very slow pulse. Under these circumstances I found it impossible to determine the exact status of the case, and only hazarded the following theory: An embolus stopping one of the coronary arteries, or an atheromatous condition impairing both coronary arteries, may so have diminished the nutrition of the organ that the walls have begun to atrophy. But beyond this, that the ganglia of the sympathetic plexus which supply the heart are dulled in sensitiveness and react but slowly to the stimulus of the entering blood. Thus a large beat, but an infrequent one, could be caused, and this condition corresponds to that of my patient. As the muscle thins or deteriorates I should expect the beat to lose its force.

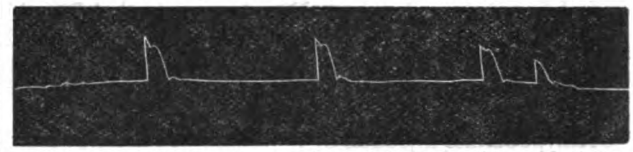
As for the patient, he had many previous conditions to make a fatty heart probable. He was not a very active man, a hearty eater, a constant, but moderate, consumer of spirits, and had had some slight rheumatic attacks long ago. It is about four years since he applied for insurance, and was remanded for repeated examinations on account of a pulse between 90 and 100. He consulted me, and I advised to stop smoking—he being an inveterate smoker. He did so, and on re-presentation was found admissible. His heart was examined then, and no exception taken to it; so it was likely in fair condition and in good working order.

The idea of an embolus of the coronary artery is, then, not only evolved from his present condition but from the suddenness of its occurrence. There is no evidence that his heart beat out of the usual rhythm up to the time of the seizure I have described.

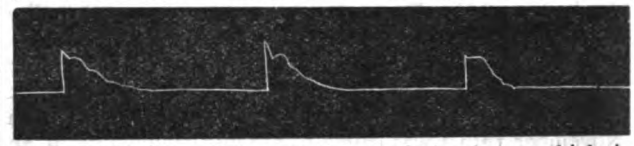
The course of the difficulty is interesting. Three months after this primary attack the beats had ranged up to 30, but subsided gradually to 22, 20, and, at times, to 18. At first the most trifling exertion caused cyanosis of the face and a convulsive rigidity of the muscles—in fact, an appearance of strangulation. The ordinary strain of urination, and the least effort in voiding fæces, brought on this state. In an instance of dietetic imprudence, attended with eructations, the symptoms became alarming. And on the surreptitious employment of a laxative, attended by four or five movements of the bowels, they held out for such lengths that death was expected during their continuance. The face became blue, the eyes protruded, the respiration was gasping, with labored puffing forth of the cheeks at each breath, the muscles were rigid, and—it was subsequently claimed—sight and hearing were lost. The pulse—well, the pulse leaped up to 120 to 130 in the minute—became very small and almost imperceptible. With the rally of forces the pulse relapsed into full beats of 24.

In the main this patient was without inconvenience, and his system seemed to accommodate itself to the new condition. He urinated and defecated without disturbance, ate even heartily, smoked, read, sat up for hours, took little walks, and sustained animated conversations. From a state of utter quiet and recumbency he gradually and very gently was emancipated to this status, and seemed to bear unconcernedly what at first seriously threatened his life. But the rate of pulse-beats indubitably grew less.

The literature on this subject is exceedingly meagre which must be my excuse for this full account. I add



sphygmographic tracings, taken with the assistance of Dr. Arthur J. Wolff, of this city, who kindly photographed them, and who was my consultant in the case. The time of taking each was seven seconds. They represent the pulse at 18 beats and at 22. Occasionally there came a



fainter but immediate repetition of the beat, which is shown in two tracings.

Let me attempt an explanation of the pulse-rise during the convulsions. To begin with, the heart beats slower and slower; less oxygen is admitted to the blood; the

tissues become saturated with carbonic acid—in other words, the patient becomes asphyxiated. This makes itself felt first in the brain. As a consequence, the nerves of special sense become inert first; next, the adjoining nerves. Presently the pneumogastric loses its power, and with it, its grip on the heart. In a moment the pulse leaps up, we have 120 to 130 beats per minute, and oxidization is restored. The pulse regains its former quality.

Death ensued in the fifth month, after a few convulsive attacks, and in one of them. All were attended by appearances of cyanosis and suffocation. The intervals were clear, and not burdened with discomfort.

The autopsy, made twelve days after death, demonstrated a heart weighing seventeen and one-quarter ounces. The orifices of the coronary arteries were dilated, the arteries themselves patent, the coats normal. The aortic valves held water. The mitral orifice admitted three fingers; the tricuspid, four fingers. The muscular tissue was red and of firm consistence; the outer coat, of brownish tinge. The ventricles were dilated, the right especially; the walls of both hypertrophied. Microscopic examination of the muscular tissue demonstrated fatty degeneration.

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A Case of Spontaneous Cow-pox has been discovered in the herd of a gentleman living in Newton, N. J. We are informed that this is the third case of original cow-pox that has appeared in the United States. We adopt the expression "spontaneous" cow-pox, without admitting that this or other specific disease arises *de novo*.

# Clinical Department.

## REMARKABLE HEMORRHAGE IN TYPHOID FEVER.

By O. H. MERRILL, M.D.,
CORINNA, ME.

F. B—— was taken sick with typhoid fever September 15, 1884. The temperature was noted to be 105° F. in the evening, unless quinine had been administered in antipyretic doses. There was no diarrhœa, and very little abdominal tenderness. In fact the bowel symptoms were "conspicuous by their absence." The case ran along in a common sort of way till September 23d. At that time, without any warning whatever, there was a perfectly overwhelming discharge of blood per rectum. Three large evacuations occurred before I could reach him. On my visit I found the pulse so rapid and so weak that I could not count it. The temperature was 96° F. He could barely whisper, and by that means indicated that he felt like having another evacuation, but he did not have any more.

A hypodermic injection of morphine was administered, and two fluid drachms of the fluid extract of ergot were also injected into his arms and legs. Ice was applied to the abdomen, and absolute rest enjoined. The first evacuation which was normal occurred ten days later. It was five days after the hemorrhage, before the temperature reached 104° F. From that point the case ran an ordinary course, and on October 21st the patient was discharged. Nothing further was seen of him till November 5th, some two weeks afterward. He then had an attack of bronchitis, in which the temperature was 101° F. On November 12th I was called to see him on account of an alarming epistaxis. Syringing with strong astringent solutions, applications of ice, and plugging the anterior nares were tried one after another, with no good result; the blood simply passing backward, and being either swallowed or spit up. Finally, as the patient was now in extreme danger, the nostrils were cleared of coagula, and the posterior nares very firmly plugged. Then a tampon was inserted into the anterior nares, and it was supposed that the case was under control. Nevertheless, in a short time, blood began to drop from one eye at the rate of thirty drops per minute. Nothing further was done except to give large doses of ergot, and the bleeding from the eye became less and finally stopped. The plugs were removed on the third day, and no further hemorrhage took place. During the epistaxis it was noted that the urine was heavily loaded with blood. Blood was also vomited at this time, but it was supposed that it had been swallowed.

The patient, then, to recapitulate, discharged blood from rectum, nose, penis, eyes, and mouth in very large quantities—so large indeed that on two different occasions he was believed to be in extreme danger. Nevertheless he recovered perfectly, but ever afterward evinced a deeply religious tendency, and is even now engaged in preaching the gospel with more or less success.

## HIGH TEMPERATURE IN TYPHOID FEVER.

By JOSEPH N. STUDY, M.D.,
CAMBRIDGE CITY, IND.

In looking over a number of text-books as to what is said regarding high temperature in typhoid fever, I find that there is a unity of opinion that the prognosis in this disease is exceedingly grave in proportion to the height which the temperature reaches for any prolonged period of time.

This opinion is abundantly supported by the statistics of our best-regulated hospitals.

That the prognosis in this affection cannot always be judged by the height of the temperature, I believe medical men frequently have opportunity to observe. That many persons die from this disease with a very moderate increase of temperature, is a well-known fact, and it cannot be denied that there are individuals who possess an idiosyncrasy to resist high temperature and diseases.

In giving an opinion as to a probable prognosis in typhoid fever, these facts should not be entirely overlooked.

Within the past few years I have had the opportunity of treating a few such cases where the temperature reached an alarmingly high point, and continued high for a prolonged period of time. And at the same time my patients presented no alarming symptoms further than the high temperature, and made a good recovery.

Permit me to relate two such cases.

I attended the family of Mr. X——, American, in July. The family consists of Mr. X—— and wife; daughter, aged nineteen; son, aged twelve; infant, aged eight weeks, and Mr. D——, aged seventy-two.

All became affected excepting Mr. D——. In the cases of Mr. X—— and son the fever pursued an ordinary course, convalescence being established after the usual length of time.

In the cases of Mrs. X—— and daughter the fever pursued an unusual long course before convalescence was established. The temperature of these two was taken daily between four and six o'clock in the afternoon. Mrs. X——'s temperature for twenty-six days registered from 103⅔° to 105⅓° F., average 104¼° F. The daughter's temperature for thirty-two consecutive days registered from 103½° to 106⅘° F. in the axilla, the average afternoon temperature being 104⅘° F. On one day only was her temperature taken in the forenoon, and it then registered 105° F. in the axilla. Both patients became greatly emaciated.

The mother nursed her infant for some days, until her milk failed. The child during this time lost flesh and was exceedingly fretful; its temperature was occasionally taken, and showed an increase of from one to three degrees.

The mother took little medicine, indulged in the most imprudent diet, and remained up and about the room all the time. The daughter remained in bed forty days, partaking freely of milk and liquid food.

Antifebrin was given a few times to the daughter, and would promptly reduce the fever about three degrees, but the depression was so great it was discontinued. The source of infection was an open well, which contained a large quantity of stinking mud, rusted tin cans, and other refuse matter. For accuracy, four different thermometers were compared in recording the temperature.

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A Chinese Paretic.—Dr. Matthew D. Field, of this city, writes: "Chow Hays, a native of China, aged forty-two, married (?), and by occupation "washee washee," was committed by a police magistrate for examination as to his sanity. He presented well-marked physical and mental symptoms of general paresis of the insane. His case was quite typical, with grandiose ideas; was about to establish a thousand laundries, and wanted ten thousand wives. Insane Chinamen are no novelty at the pavilion for the insane, but I believe this is the first case of general paresis in a celestial in New York City. Dr. W. H. Mays, late superintendent of the Insane Asylum of the State of California, at Stockton, in his biennial report for 1885 and six writes: "There are seventy Chinese under our care, sixty-seven males and three females. In the Napa Asylum about as many more may be found. In proportion to the number of Chinese in the State, I consider mental disease particularly rife among them. In China, insanity partakes somewhat of the nature of a penal offence. Hence travellers in that country, seeing little of it, proclaim its non-existence, and base thereon deductions unfavorable to our civilization. But in Japan, where enlightened and progressive views are making rapid headway, institutions for the care of the insane are beginning to dot the land."

THE MEDICAL RECORD:

*A Weekly Journal of Medicine and Surgery.*

GEORGE F. SHRADY, A.M., M.D., EDITOR.

PROPRIETORS AND PUBLISHERS

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**New York, December 14, 1889.**

## EPIDEMIC INFLUENZA.

THE epidemic of influenza which we have already referred to as occurring in Russia has spread into Finland and Eastern Prussia, and is not unlikely to spread throughout Europe, and even reach this country. The disease travels rapidly, and has been known to make all Europe sneeze within six weeks, so that we may expect an arrival here before our winter months are over. It used to be thought that this epidemic moved in definite cycles of one hundred years. Although such an idea has been long abandoned, it is a curious fact that the influenza prevailed in America one hundred years ago, and Dr. John Warren, in a letter to Dr. Lettsom, says that "our beloved President Washington is but now recovering from a severe and dangerous attack of it."

In 1830 an epidemic started in China, it reached Russia in January, 1831, and by May it had spread to Western Europe; but it only reached this country in January, 1832, and then prevailed but slightly.

Another and severer epidemic started in Russia in December, 1836; within a month it appeared in London, and rapidly spread over Europe. This time, again, America was not affected. An epidemic of considerable extent prevailed in the United States about ten years ago, and there have been various mild manifestations of the disease. On the whole, however, North America does not seem to be very favorable to the development of epidemic influenza in its worst forms, and it is unlikely that we shall have a severe visitation, if we have any at all.

The disease is not dangerous, except sometimes to children or the aged, while the former often show a decided exemption.

There is no doubt that this new epidemic will prove a boon to bacteriology, for Seifert's micrococcus has not quite satisfied pathologists, and we anxiously await the announcement of the discovery of the influenza bacillus, only regretting for the sake of American science that the miasm always begins in the East and travels West. The bacteriological laboratories of Europe will therefore have the first chance.

The disease is undoubtedly due to some micro-organism which floats in the air, and which infects the human system, but is generally killed in so doing. For influenza is but slightly if at all contagious.

We observe that some feeling of alarm prevails lest this epidemic be a precursor to cholera, as was the case in 1831 and 1847.

There have been, however, plenty of cholera epidemics without a preceding influenza, and a great many influenza epidemics without any associate cholera. The micro-organisms of the two diseases are as essentially different as are the diseases themselves. The cholera germ lives in water and soil, the influenza germ in the air. The relation between the two diseases has been, we believe, purely accidental.

## COMPULSORY NOTIFICATION OF INFECTIOUS DISEASE.

IT is time that the medical profession take some decided stand with regard to the subject of compulsory notification of infectious diseases. At present we are sued by the patient if we send a notice, and sued by the Board of Health if we do not.

Illustrations of both these contingencies of modern medicine have occurred in or near this city, and must be fresh in the minds of the profession. A doctor was recently imprisoned by the stupid action of the Brooklyn Board of Health because he did not send in a notification of a case of yellow fever, which was not yellow fever after all. Recently a Boston physician was fined $100 and costs for not reporting promptly a case of small-pox. The physician claimed that he did make the report as soon as he was convinced of the nature of the disease. He is known to be an intelligent and experienced man; yet, despite his protests, he was fined. The doctor is a poor man, in poor health, and with a family to support. He can ill afford to pay the sum exacted, nor should he be compelled to do so.

It is well known that chicken-pox sometimes takes a severe form and for a time closely resembles small-pox. We can recall a case in which, after a notification of possible small-pox, the City Board of Health physicians paid visits for three days before they could decide as to the nature of the disease.

A young man is now suing the city of Philadelphia for $50,000 because he was sent to a small-pox hospital when he had only the measles. He subsequently caught the small-pox in the hospital, and barely escaped with his life. The Brooklyn Board of Health is now being sued for having insisted that a case of remittent fever was one of yellow fever. Officers of hospitals for infectious diseases constantly find mistakes in diagnoses made, and sometimes make them themselves. Some illustrations of this are given in a recent issue of the *British Medical Journal.*

"Dr. R. D. R. Sweeting, in his 'Report on the Western Hospital of the Metropolitan Asylums Board for 1887,' states that 21 cases of measles (and rötheln) had been admitted during the year, 13 certified as scarlet fever and 8 as enteric fever; again, Dr. R. A. Birdwood, in his 'Report on the Small-pox Hospital Ships for 1888,' states that four patients, not suffering from small-pox, had been admitted on mistaken diagnoses; the diseases they were actually suffering from were scarlatina, syphilis, eczema, and ecthyma."

From all this it is evident that physicians should not be made responsible for not promptly notifying authorities of the nature of an infectious disease, even if they accept the duty, unconstitutionally forced upon them, of serving the State without remuneration.

### MEDICAL EXAMINING BOARDS AND "LIBERTY."

OUR correspondent, Dr. Mendelsohn, contributed a very eloquent letter to our columns last week, regarding the subject of the regulation of medicine, and of medicine in its relation to the State generally. Much that was said about the debasing influence of the spoils system upon public medical officers is, unfortunately, true.

Upon the subject of the regulation of medicine by the State, however, our correspondent betrays a profound ignorance. The purpose of this regulation is not to protect the medical profession alone, but to give to the people a reasonable assurance that a class of persons upon whom life, health, and the prevention of epidemic disease often depends, should have some educational qualifications.

The danger of the State going too far in its interference with medical affairs exists, but is very slight, and not now imminent. It is not safe or logical to infer from certain results in an absolute monarchy that similar results will occur here in a free republic. This is a country where laws are made by the people and for the people. If a law is bad it can be remedied without petitioning an imperial chancellor.

The statement that laws regulating medical education and practice have done no good, and had no part in securing our present progress, is quite erroneous, and shows much ignorance of the history of medical education in this country. We commend our correspondent to some impartial historic studies.

It is not claimed that State aid is a specific for bad educational methods or low professional standards. It is one means, however, and a decidedly helpful one in hastening on the time when higher standards will be demanded by universal public opinion.

A State Examining Board will not secure a medical millennium, but it may prevent the development of bogus and purely business medical colleges, which turn out dishonest and ignorant men, who fail, or do not seek, to pass at reputable institutions.

It is quite possible that in a few thousands of years matters medical will have naturally and spontaneously reached perfection, as some apostles of personal liberty seem to think. But it is not the part of wise men to trust entirely to such general optimistic conceptions of the universe. It is better to start things on so as to taste a little of the beatitude in our own day.

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### IODIDE OF POTASH IN HEART DISEASE.

THE potassium salts, including the iodide, have long ago been shown to have a paralyzing effect upon the heart in large doses. M. Germain Sée now tells us, however, that in medicinal doses potassium iodide is a cardiac and vasomotor tonic. We must doubt the value or thoroughness of Sée's experimental studies, for they seem to ignore as well as contradict all previous work. But the clinical conclusions may be true enough. M. Sée asserts that the cardiac affections which are mostly benefited by this treatment are adiposis, fatty degeneration, weakened heart, cardialgia, nervous or organic irregularity of the organ (arythme), especially in the aged. As to aneurism of the aorta, iodide of potassium was the only remedy that gave real satisfaction. In all heart disorders, far from being a depressor, it was particularly useful in lesions with debility. It raises the energy of the heart and the vascular pressure. Then, in dilating later on all the arteries, the flow of blood is facilitated and the organ recovers its contractile powers.

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## News of the Week.

THE EPIDEMIC INFLUENZA is said to have appeared already in Paris, though not in Berlin or London.

THE SOUTHERN MEDICAL RECORD has passed into the hands of Dr. D. H. Howell, of Atlanta, Ga.

DARTMOUTH MEDICAL COLLEGE held its annual commencement November 26th, and graduated twenty-one students.

COOPER MEDICAL COLLEGE OF SAN FRANCISCO held its twenty-sixth annual commencement November 21, 1889, and graduated a class of 41, out of 64 matriculates.

A HOSPITAL FOR INCURABLES IN PITTSBURG.—The sum of $800,000 has been bequeathed by the will of the late Mr. J. H. Schoenberger, to found a hospital for incurables at Pittsburg, Pa.

DR. JOHN S. BILLINGS has, with the approval of the Secretary of War and of the Surgeon-General, accepted the position of Medical Director of the University Hospital in Philadelphia, to which he was recently elected.

DR. HANS VIRCHOW, Privatdocent in the University of Berlin, and Prosector in the Anatomical Institute, has been raised to the rank of Professor Extraordinarius. Dr. Hans Virchow is a son of the celebrated pathologist.

DR. BRAMANN, first assistant in Professor von Bergmann's clinic at Berlin, who performed tracheotomy on the late Emperor Frederick the Third, has declined to accept a "call" to Greifswald as Extraordinary Professor of Surgery.

QUACKERY IN BRAZIL.—On October 19th the late Brazilian Minister of Justice sent a circular to all presidents of provinces, directing them to institute criminal proceedings (*proceder criminalmente*) against all persons practising medicine without legal title. It is to be hoped that in this point the new Republic will show itself as enlightened as the Imperial Government which it has supplanted.

WEIGHT AND FEEDING.—Drs. A. V. Meigs and J. A. Scott wish us to believe that if a person weighs just 100 lbs. and then takes into his stomach just one pound, he will not weigh 101 lbs., but only 100.8 or 100.9 lbs. In other words, weighing just before and just after eating will not give exactly the amount eaten. These observations of our Philadelphia contemporaries throw a dark and depressing shadow upon the historic researches of the great Sanctorius, who passed his life in eating, excreting, and weighing. But perhaps Philadelphia scales are wrong.

AT THE OPHTHALMOLOGICAL CONGRESS recently held at Heidelberg, the Graefe prize was awarded to Professor Deutschmann, of Hamburg, for his essay on "Ophthalmia Migratoria." Dr. Uhthoff, Privatdocent in the University of Berlin, received an honorable mention for his work on the "Influence of Chronic Alcoholism on the Visual Organs of Man."

A NEW GYNECOLOGICAL OPERATION, termed Salpingostomy, has been devised by Dr. Skutsch. Its object is to save the tubes instead of removing them when they are diseased. In the patient on whom the operation was done, there was obstruction and dilatation of tubes. A Pravaz syringe was employed in order to puncture each tube and ascertain its contents. As clear yellow serum was drawn away, the operator determined to save the tubes. An oval piece, about one square centimetre in size, was cut out of the outer end of each tube, and the mucous and serous coats united by fine silk sutures around the border of the hole thus formed. A sound was then easily passed from the tube into the uterine cavity on both sides. The patient made a good recovery, and was relieved of her pains, but a long after-history is not given. In some cases of pyosalpinx it would be advisable, he thinks, to sew the ends of the tubes to the abdominal wound, to open them, and allow them to discharge pus externally. When the discharge ceased to be purulent the tubes might be freed from their artificial attachments and replaced in the pelvis.—*British Medical Journal.*

A MEDICAL ASSOCIATION OF IRREGULARS has been organized in Massachusetts, under the name of the Massachusetts Constitutional Liberty League. It recently met, and after a series of lurid "*whereases*,"

*Resolved*, That all organized so-called irregulars be and are hereby invited to co-operate with the Massachusetts Constitutional Liberty League and the National Constitutional Liberty League, in resisting restrictive legislation, or any legislation suggested and supported by regulars.

*Resolved*, That all unorganized so-called irregulars be especially and earnestly urged to immediately identify themselves with the State and National League.

*Resolved*, That all patrons of so-called irregular practice owe it to those who have served and saved them, especially after the regulars had utterly failed to cure or even benefit them, to sustain them in their struggle for constitutional liberty with their sympathy and substance.

THE NEXT PHARMACOPŒIA.—Attention is being called to the fact that the next revision of the Pharmacopœia will be one of the most important in the history of the work. Medical societies are asked to bear this fact in mind.

DISPOSITION OF STABLE REFUSE.—At a meeting of the Section on Public Medicine of the New York Academy of Medicine, Dr. Jos. D. Bryant said that there are sixty thousand horses in the city below One hundred and Thirty-fifth Street, and the refuse amounted to about nine hundred thousand pounds daily. About three hundred thousand dollars is invested in the business of removing this refuse. He urged that there would be great benefit to the public in compelling all this refuse to be baled before it is carried through the streets. Commissioners Bryant and Smith had agreed on a report recommending that after May 1, 1890, baling be made compulsory. The meeting voted its approval of the report.

ASSOCIATION OF LIFE INSURANCE MEDICAL DIRECTORS.—About twenty-five medical directors of various life insurance companies of this country met in this city last week, and organized the "Association of Life Insurance Medical Directors of America," with the following officers: *President*—Dr. J. M. Keating, of the Pennsylvania Mutual; *Vice-Presidents*—Dr. G. W. Russell, of the Ætna, and Dr. Lewis McKnight, of the Northwestern Mutual; *Secretary*—Dr. Frank Wells, of the John Hancock; *Treasurer*—Dr. J. W. Brannan, of the Washington; *Executive Committee*—Dr. J. M. Keating, of the Pennsylvania Mutual, Dr. Frank Wells, Dr. J. W. Brannan, Dr. Henry Tuck, Dr. G. S. Winston, Dr. E. W. Lambert, and Dr. Edgar Holden. The object of the Association is "the promotion of medical science as applied to life insurance by the personal intercourse of the members, presentation of papers, discussions, and such other methods as may be found desirable; and also the encouragement of social and personal relations between its members, and the advancement of the general interests of life insurance." The next meeting of the Association will be held in May, 1890, and it will meet annually thereafter during the same month.

ROBERT GARRETT'S MEDICAL BILL.—The suit of Dr. Nathan R. Gorter against Robert Garrett, for $25,000 for professional service, has been settled. Dr. Gorter offered to compromise for $18,000; the proposition was accepted and the money paid.

HORSE-MEAT SAUSAGES.—Some alarm has been created by the discovery that a Long Island establishment has been making sausages out of horse-meat. There is, however, nothing poisonous or unnutritious in horse-meat. The only objection that can be made to this kind of food is that sound and healthy horses are too expensive to be eaten, hence it is to be assumed that the horse-meat of butchers' shops does not represent the noblest type of a noble animal.

THE ISABELLA HEIMATH RETREAT, TENTH AVENUE AND 190TH STREET, NEW YORK.—There are two convalescent wards at the Isabella Heimath, each containing fourteen beds. They are intended for convalescents who have no home in which they could find rest and care. The trustees are ready to admit, for a term not exceeding four weeks, convalescents of both sexes needing care and rest after acute internal diseases or surgical operations; and no distinction shall be made on account of creed or nationality. Applications, bearing the indorsement or recommendation of the attending physicians or surgeons, should be addressed to August Caillé, M.D., 185 Second Avenue; A. G. Gerster, M.D., 56 East Twenty-fifth Street; A. Jacobi, M.D., 110 West Thirty-fourth Street; H. G. Klotz, M.D., 222 East Nineteenth Street, consulting physicians.

TOBACCO HYSTERIA.—At a recent meeting of the Paris Hospital Medical Society, M. Gilbert showed the members a patient, aged sixty-two, who had worked in a tobacco factory forty years, and smoked excessively. About a year ago he exhibited symptoms of motor and sensory disturbance in the lower limbs. These were apparently cured by the influence of a magnet, but soon afterward reappeared in the form of motor hemiplegia, with sensory anæsthesia. These cases often occur in tobacco factories. MM. Gilbert and Letulle diagnosed the case as toxic hysteria. M. Hayem objected to the constant misapplication of the term hysteria.—*British Medical Journal.*

"TOXIC" NOT "TONIC."—On page 606 of THE MEDICAL RECORD, in the notice of "Nothnagel on Heart Disease," in the second line of second paragraph, *tonic* should have been printed *toxic* effect.

Society of the Alumni of Charity Hospital.—The following officers have been elected for the ensuing year: *President*—Dr. D. Bryson Delavan; *Vice President*—Dr. Ramon Guitéras; *Secretary*—Dr. W. L. Baner; *Treasurer*—Dr. A. T. Muzzy.

The late Dr. George Williamson, who died in this city on December 8th, was well known to the younger members of the medical profession as an earnest worker and a true Christian physician. He graduated from the University of New York in 1875, and served as interne in the Epileptic Hospital and Orthopœdic Hospital. For many years he was one of the assistants at the Manhattan Eye and Ear Hospital. He leaves a widow but no children.

A Chicago Hospital Criticised.—The Cook County Hospital, says *The Medical Standard*, has for years, with some honorable exceptions, been a collection of servile tools of the vilest political ringsters. In place of upholding the dignity of the profession, the County Hospital staff has made the name of hospital physician a by-word and a reproach. The performances of several of the members of the Board of 1888 were so unprofessional as to merit the censure of the Chicago Medical Society.

A New Method of Antirabic Inoculation.—Inspired by the belief of M. Pasteur, that the desiccation of spinal cords obtained from animals having died of rabies diminishes the quantity and not the virulence of the rabic poison, M. Hœgyes, of Buda-Pesth, was led to try the effect of simple dilution, and he has successfully carried out seventy vaccinations on this plan without the production of any untoward symptoms. He soaks one part of diseased cord in a sterilized solution of sea salt (7 grammes to the litre), the proportion varying from 1 in 10 to 1 in 10,000.—*Medical Press.*

A Nursing Heroine.—The spirit of Florence Nightingale lives in the person of Sister Thérèse, Superior of the Sisters of Charity now serving in Tonquin, who has recently been decorated by the General in command. When she was barely twenty-five she was wounded at Balaclava. At Magenta she again received a wound. She accompanied French soldiers to Syria, China, and Mexico. In the Franco-German war she was grievously wounded at Reichshofen while attending the cuirassiers who fell in that memorable charge. At a later stage of the same campaign she distinguished herself by seizing a bomb which fell into an ambulance, and carrying it away eighty yards, when it burst, seriously injuring her alone. She was scarcely recovered from the effects of this injury when she volunteered for service in Tonquin.—*British Medical Journal.*

A New Test for Albumin in the Urine.—Trichloracetic acid is stated by M. Boymand in the *Répertoire de Pharmacie* for the present month to be the best reagent for the detection of albumin in urine. It is more reliable and possesses none of the disadvantages of the ordinary tests, such as nitric acid and metaphosphoric acid. It has also the power of precipitating that peculiar form of albumin which is thrown down by heat but redissolved on the addition of acetic acid. Trichloracetic acid is obtained by the action of chlorine gas upon acetic acid, three atoms of the hydrogen of the radical acetyl being replaced by chlorine. The compound is represented by the formula $CCl_3CO.OH$. It is a crystalline solid body, very soluble in water, and it forms salts analogous to the acetates. Acetic acid may be regenerated from it by the action of nascent hydrogen. The test may be used in a solid form or in solution. If the solid be employed, a small fragment is placed in a test-tube containing the urine; it sinks to the bottom and is dissolved, producing a cloudiness, or, with very clear liquids, a zone of cloud. The solution can be used either saturated or fairly concentrated. When poured upon the urine to be examined it forms a characteristic ring, like that obtained by means of nitric acid, but without producing any coloration. When the urine is rich in urate of soda it is better to dilute with distilled water, and thus avoid a cause of error which is common to all reagents. We have not been able to obtain a specimen of trichloracetic acid for the purpose of verifying the statements made respecting it as a precipitant of albumin in urine under all conditions, but we hope to do so in a short time, and to report the result of our experiments.—*British Medical Journal.*

Hypohæmatosis.—Dr. Maurel has read a paper before the Paris Academy of Medicine, on "Hypohæmatosis," which may be summarized as follows: The height, weight, and measurement of the thoracic region have a definite proportion one to the other. This proportion is variable according to age, but is definite for any given age. When what may be called the normal proportion does not exist, a series of abnormal conditions exist which M. Maurel classes under the name of hypohæmatosis. Sometimes these several conditions collectively produce a special condition—anæmia resulting from imperfect oxidation of the tissue, or, in other words, non combustion owing to imperfect thoracic development. Gymnastic exercises frequently remedy this evil, and thus act as an antidote to hypohæmatosis.—*British Medical Journal.*

As the World Gets It.—Under the title "Seven M.D.'s Beautifully Trapped," a sheet called *The Microcosm* says: "This interesting feat was adroitly accomplished in last Sunday's New York *World*, by the intrepid lady reporter and detective employed on that paper. She played sick and visited the seven prominent doctors, probably with a made-up sallow complexion, and thus obtained from each a critical diagnosis of her case. Now comes the funny, and at the same time serious, part of this exposure. Each of the seven learned physicians solemnly attributed to her a different ailment, and then each as gravely prescribed a different class of medicines. A more humiliating exposure of the humbug and empiricism of this professional business of dealing out poisons to the sick at $5 for two dozen words of Latin quail-tracks on a slip of paper, has never before been placed on record. If that single exposure does not lose the doctors of New York, in prescription receipts alone, a cool million dollars, then we sadly miss our guess." Upon all this our esteemed and valiant contemporary *The Texas Health Journal* makes serious comment and reply. First, the editor of *The Microcosm* is shown up as a "notorious and nefarious humbug," and then it is added: "We have not seen the article referred to in the New York *World*, but do not for once doubt the hysterical article written by Miss Bly, who doubtless consulted a lot of quacks and blatherskite advertisers, such as Hall of *The Microcosm*."

# Society Reports.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, November 7, 1889.*

ALFRED L. LOOMIS, M.D., PRESIDENT, IN THE CHAIR.

THE PRESIDENT appointed Dr. M. Allen Starr editor of the volume of "Transactions."

DR. SIMON BARUCH read a paper entitled

### A PLEA FOR THE PRACTICAL UTILIZATION OF HYDROTHERAPY.

The fact that water in the treatment of disease had been chiefly employed by empirics seemed to have prevented in some degree general recognition of its virtues by the medical profession. The author justified his appeal for its more general utilization by physiological laws and clinical results, both ancient and modern. The literature showing the value of hydro-therapeutics was very extensive, yet modern text-books dismissed the subject with a few words. There were at present but three cities in which it was much used in the general hospitals. Vienna taking the lead. In spite of professional and lay prejudice, the remedy had stood the test of time better than any other. A review of the experience of those whose names had become prominently associated with hydrotherapy was given, and brief quotations were made from such modern therapeutists as Niemeyer, Dujardin-Beaumetz, Hoffman, etc., testifying to the value of the method.

But proof of its value did not rest alone on clinical experience; it was fully supported by ascertained physiological laws. What other agent than water could produce such a variety of results, according to its mode of application? Its stimulating or depressing effects could be made to manifest themselves either directly upon the skin where applied, or upon internal or remote organs, through reflex influence. One example of reflex influence was seen in the response of the blood-vessels of the pia mater to a stream applied to the surface; if the stream were cold, they become dilated; if warm, they become contracted. The hand immersed in cold water increased in size, showing that by the use of water the blood could be driven from one part of the body to another. Water applied to the feet exerted an influence upon the cranial circulation; applied to the back, it influenced the circulation in mucous surfaces, etc. The heart also responded to temperature impressions upon the periphery. A low temperature briefly applied accelerated the heart's action; prolongation of it diminished the action. Evanescent application of a high temperature to the skin caused a decrease of the pulse-rate, quickly followed by an increase. By cooling the blood in fevers, the heart's action could be slowed, and an invigorating effect thus brought about. Having stated that the vascular tension could be modified by hydropathic procedures, he said that this influence upon the circulation was so decided, indeed, that hydrotherapy became in reality a hydraulic problem. It was a most perfect means of influencing the vascular system. He said it was to be remembered also, in discussing the value of hydrotherapy, that the vital process by which the system sought to protect itself against thermic changes had also been ascertained. Vascular spasm protected the internal organs against too rapid cooling of the surface, while the secondary effect was reaction and vigorous dilatation of the cutaneous vessels. It had been shown that by hydropathic treatment the blood-cells could be increased in number, and also improved in quality. This, and the influence upon the nervous system, produced a healthy change in the functions of nutrition, secretion, and excretion. In this country, Dr. Putnam-Jacobi was one quoted as having added to our knowledge of the physiological and therapeutic action of water.

In discussing the clinical aspect of the subject, he said he agreed with Dr. F. A. Hoffman in the statement that he did not deal with the disease, but with the sick man. He approved of Hoffman's classification of the treatment as direct (removing the cause) and indirect, but he would add a third method, that by which he could so impress the various functions of the body, chiefly innervation, as to enhance the resisting powers of the patient, and thus enable him to pass over danger-points. He claimed for hydrotherapy only the position of being a valuable but indispensable auxiliary to other treatment. By hydrotherapy he meant water at any temperature, in any form, used internally or externally in the treatment of disease. Of the three therapeutic methods mentioned, the removal of the cause of the disease directly was not always practical because of our ignorance of the etiology. In the case of gastric and intestinal diseases, we seemed to be on the threshold of discovering the cause through bacteriology. In the removal of this and restoring gastric function, water had been used with great success. Intestinal irrigation, by means of the fountain syringe and Nélaton catheter, was the most efficient method of treating several types of summer diarrhœa. The value of sipping hot water in gastric troubles had been demonstrated. Other cases in which he had found the method of marked benefit were those of neurasthenia and other nervous diseases, rheumatism, gout, scrofula, etc. The neurasthenic cases were treated differently according to whether they were of an erethitic or an asthenic nature. Two cases were cited to show that much depended in the treatment upon the temperature of the water, and the uniformity and frequency of its repetition. He said that hysteria was among the affections which would almost certainly yield to the water treatment when aided by other measures. They had discharged three cases from the Montefiore Home as cured, notwithstanding they had been sent there as incurables. No patients of any kind were admitted to this institution, except those who had been considered incurable; yet by hydropathic measures they had sent out a number as cured, who had had gout, rheumatism, sciatica, hysteria, etc. Chorea often yielded to this treatment; the active impact of very cold water by the douche was necessary here. Many cases of neuralgia were connected with anæmia and chlorosis, and were cured by hydropathic treatment; indeed, he said that if there was any condition in which the tonic effects of hydropathy were pronounced, it was functional anæmia. During the winter it was often sufficient for the patient to stand with the feet in warm water, and splash cold water on the body, the duration being only until the entire body had been wet. The result of hydropathy in the treatment of phthisis had been also satisfactory at the Montefiore Home, and one pronounced case of the morphine habit was cured. Statistics had demonstrated that the mortality of typhoid fever could be reduced from twenty-five per cent. to two per cent. by this treatment. The fact should not be overlooked that the object was not to reduce the temperature, but to refresh the nervous system, that the body might be enabled to withstand the disease. The bath should be adapted to each particular case.

DR. GEORGE L. PEABODY, having been asked to open the discussion, said he would speak only of the application of water to the treatment of a form of acute disease which was of common occurrence here, and in the treatment of which our results had been almost uniformly discreditable to medical practice. He referred to typhoid fever. It was a matter of surprise that in this city, where physicians sought to introduce into their practice all that was good and new from all parts of the world, it was necessary for one to urge the desirability of trying this procedure. He thought that the sooner we rid our minds of the fallacy that it was likely to do patients with a high temperature harm to expose them to a considerably lower temperature, the sooner would we get at the rational treatment of this grave malady. It was almost impossible to give a patient cold who had a temperature much above the normal; it was not likely that a patient with a tem-

perature of 104° F. would take cold, even if he kicked the bedclothes off and lay entirely exposed. He thought the mortality from typhoid fever in our hospitals was quite unjustifiable; it ranged anywhere from twenty-five to thirty per cent., and, here and there, it rose to fifty per cent. In the German army, where this treatment had been carried out in a large number of cases, the mortality had been reduced to below four per cent. Perhaps one reason why it had not been applied, except in a few instances, in our hospitals, was that it required two attendants and a portable bath-tub.

Regarding the method of applying it, he thought there could be no question but what the full bath, of a temperature of between 65° and 80° F., was best; the patient should be put into the bath at as frequent intervals as the temperature indicated. The temperature should be kept at or below 102° F., throughout the entire course of the disease. How much more rational was this treatment than that which he had often observed, of administering antipyretic drugs, bringing the temperature down from 105° or 106° F., to normal or below, allowing it to rise again equally high, and again bringing it down with the drug. A good many patients were brought to the hospital in a very unfavorable state, and in that case, instead of plunging them into a cold bath, he would apply the wet pack. Personally, he did not like the graduated bath; it was far more troublesome, and was less comfortable to the patient. Cold affusions on the Kibbee cot produced rather too much shock. He thought it was folly to apply cold to the surface of the body when it was already cool. We often found profound depression in typhoid fever in which the surface was cool, and the internal temperature high. It was certain that no routine habit of applying cold to the surface would apply in these cases. He could conceive of no other direct object in applying cold than to increase surface radiation, and if the heart was too feeble and could not be stimulated to pump the blood to the surface, there was no reason in cooling the surface further.

Dr. A. A. Smith hardly knew where to begin to discuss so extensive a subject. In Bellevue Hospital he had continued the treatment of four cases of typhoid fever, begun during the service of Dr. Flint, and all recovered; since then he had had five cases, in none of which the use of the cold bath seemed to be justified, since the temperature did not rise above 103.6° F. They all recovered without such treatment. This, he supposed, would be the experience of others. Unless the bath was used in a large number of cases, it would be difficult to draw any conclusions regarding its superiority over other methods of treatment. He was, however, a warm advocate of hydrotherapeutics. He said that if there was any class of cases which made him very unhappy, and which he failed to make very happy, it was that of the neurasthenics. If Dr. Baruch could teach us how to cure these patients by hydrotherapy, he would put us under great obligations. Regarding the cure of hysteria by this method, he must admit to some scepticism, yet he hoped others would try it and have equal success. Patients with hysteria deserved our earnest attention, for he believed that underlying almost every case there was some cause in irritation, or disturbance, which should not be ignored. He was a great believer in the wet pack, and he thought that its only benefit did not consist in reducing the temperature; he had felt that the soothing of the nervous system was as great an object to attain as the reduction of the temperature. Warm water had been of great service in reducing the temperature. He had known the temperature in scarlatina to fall a degree and a half from no other treatment than wrapping the patient in a sheet wrung out of warm water, repeated several times during the twenty-four hours. It often banished delirium and muscular disturbance, caused sleep, and reduced the temperature.

Dr. M. Putnam-Jacobi gave the details of a case of typhoid fever treated in the New York Infirmary by water-baths. She differed from Dr. Peabody in the view that the benefit was alone from the reduction of the temperature. She saw no reason for pushing it further than to produce the desired reduction of the temperature and beneficial influence on the circulation and nervous system. She did not think, therefore, that hard and fixed rules for its use in typhoid fever should be necessary.

Dr. G. B. Fowler thought the physical properties of water commended its use in the treatment of disease to all physicians, and he was rather surprised to hear that the bath was as little used as Dr. Baruch had stated. He certainly had used it ever since he began practice, in all cases of hyperpyrexia. In the angina of scarlet fever, diphtheria, etc., he kept the throat almost frozen, using ice, and certainly with very good results. He expected it to do more than reduce the temperature. Its results were less violent than those of the therapeutic measures usually employed. The author had only hinted at one method of using water, namely, by drinking. Dr. Fowler regarded this as important in the treatment of fever as the external use of water. He gave his patients an excess to drink, and in the sickness of children gave it to them in the nursing-bottle. He saw a great many cases sometimes called neurasthenia; women with constipation, loss of appetite, catarrh of the alimentary tract, etc., the blood-corpuscles on the glass sticking to one another, crumpled, the urine scanty, want of free perspiration. Here the clinical facts pointed to a deficiency of water in the system. One might as well try to raise a crop without rain as to nourish an individual properly without water.

Dr. Baruch closed the discussion.

## NEW YORK PATHOLOGICAL SOCIETY.

*Stated Meeting, June 12, 1889.*

William P. Northrup, M.D., President, in the Chair.

### REPORT OF THE COMMITTEE ON MICROSCOPY.

Drs. Henry P. Loomis and Ira J. Van Gieson, the Committee on Microscopy, reported that the microscopical section referred to them at the last meeting of the Society, which was obtained from the bone presented by Dr. Lewis H. Sayre, was found to be filled with dilated and irregularly shaped medullary spaces encroaching upon the bony trabeculæ. In the semicircular depressions at the margin of the trabeculæ were seen granular-looking, multi-nucleated cells (osteoclasts). In some places these cells were almost surrounded by bone. The committee diagnosed the lesion as that of rarefying ostitis.

Dr. William P. Northrup presented specimens illustrating

### GENERAL TUBERCULOSIS — THROMBOSIS OF THE LEFT MIDDLE CEREBRAL ARTERY—CHEESY MASSES IN THE MEDULLA.

A male child aged five months was, when first seen by the house physician, lying in bed in the attitude of a boxer. The head was markedly retracted and turned to the left, the left elbow was raised to the level of the shoulder, the forearm flexed on the arm and held in a plane on a level with the elbow, the hand clinched with the thumb in the palm. The right arm was extended on the level of the shoulder and its fingers clinched over the thumb. The knees were moderately drawn up. Nothing pictures the position better than to imagine the child on its feet in the attitude of a boxer. The abdomen was distended but not tense. Sensations were normal. Respiration was of the Cheyne-Stokes character; pulse rapid and weak; temperature, 99.5°; lungs normal; tache cérébrale marked; cry not meningeal; pupils dilated but not reacting. The child died three days after the first recorded observations.

*Autopsy.*—Body emaciated. Attitude the same as described above. *Brain:* Tubercles sprinkled over whole cerebrum, thickest along the course of the vessels. About

the left middle cerebral artery, in its first inch and a half, was a mass made up of tubercle tissue and inflammatory exudation. The artery was blocked by a thrombus and the brain-tissue to which it was distributed was diffluent, while the remaining and surrounding substance was firm. The diffluent mass left an opening into the left ventricle. The ventricles seemed not to be dilated, or only moderately. In the wall of the fourth ventricle, at the junction of the medulla and pons, was a yellowish, spherical cheesy mass, about four millimetres in diameter. A similar mass, though smaller, was found lower down in the opposite wall. The spinal cord was normal. *Lungs:* Tubercles large, opaque, and abundant; cavity of capacity of 3 ss. Bronchial lymph-nodes enlarged and cheesy; no pneumonia. *Liver* enlarged, tubercles numerous. Gall-ducts thickened and tubercular. Heart normal. Mesenteric glands large and cheesy. Peyer's plaques swollen, but no ulcers.

Dr. Northrup presented a second specimen, illustrating

ABSCESS OF THE SCALP FOLLOWED BY THROMBOSIS OF THE LONGITUDINAL SINUS, AND PYÆMIC ABSCESSES IN THE BRAIN AND LUNGS IN AN INFANT.

The patient was a male child, two months and six days of age, who was brought to notice with an abscess of the scalp, over the vertex; no history of injury. Three days later, and two weeks before death, he became restless, fontanelles depressed, temperature gradually increasing to 103° F., with twitching of the left arm and jaw, and rolling of the head. He gradually failed, developing in the last days of life an ulcer on the tip of the tongue; fine râles over both chests, and became pale, stupid, and aphonic.

*Autopsy.*—Extremely emaciated; abscess over vertex nearly healed; beneath the site of the abscess the bone was reddened; the longitudinal sinus contained a firm old clot two and a half inches long, having its middle just below the centre of the abscess. Slight redness of the dura mater; no exudation upon its surface. The wall of the sinus seemed normal; across its cavity stretched a fine bifurcated filament. This was located in the middle of the clot; its tissue was normal. *Brain:* The right lateral surface contained six or eight small abscesses varying in size up to a diameter of from three to four millimetres. These extended inward from the pia mater and were fusiform in shape; the contents, fluid creamy pus. There was no meningitis. Post-mortem softening was advanced. *Lungs:* Scattered broncho-pneumonia with marked infiltration of the small bronchial walls. On the surface of the right lung, just under the pleura, was a small abscess similar to those of the brain. There were no other abscesses found. The thrombus of the longitudinal sinus, the small abscesses of the brain, and the abscess of the lung showed abundant colonies of streptococci. Numerous colonies were distributed in the lungs with evident beginning of abscesses.

Dr. H. P. Loomis said that he had recently seen a case somewhat similar to the one reported by Dr. Ely. Inoculation of a rabbit with the cheesy material from the bronchial glands showed that it was tuberculous.

Dr. Northrup presented a card-specimen of

VEIN TUBERCLE,

from a case of discrete miliary tuberculosis of the lung in a child (see p. 657). The specimen was of unusual interest from the fact that a fortunate cut across one vein had passed through two tubercles growing from the inner surface of the same vessel. A second microscope slide showed the two tubercles stained for tubercle bacilli, in which the micro-organisms were distinctly demonstrated. The tubercles were of typical structure, containing granular giant-cells and tubercle bacilli.

The Society then went into executive session.

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Creosote in Diabetes.—In doses of from four to ten drops a day creosote is said by Dr. P. Valentine to have yielded excellent results in several cases of diabetes mellitus.

# Correspondence.

## PREPARING FOR THE INEVITABLE.

To the Editor of The Medical Record.

Sir: Your able editorial on life insurance for physicians, in The Record of November 23d, abounds in good suggestions. But will it go far enough? That is, will enough physicians join a mutual benefit association to pay our widows a sum that, at five per cent. interest, would keep those we leave behind in anything like the circumstances they had been accustomed to? I think it exceedingly doubtful. Making allowances for "bad risks" that would or should be rejected, with two or three exceptions, how many centres are there that could muster enough physicians that on the death of a member could pay the widow even $2,000 or $3,000, granting the assessment would be $1 or $1.50 for each death?

Mutual Life Assessment Companies have been formed time and again, and nearly as often have they led a precarious existence, finally dying of inanition. What *is* the remedy? At present there is hardly a town of any size but what has those boons for all mankind—physicians as well as mechanics—building associations. Let a member buy two shares of an association that has $1,000 shares—many are only $500. He deposits his $2 a week, commencing, say, the 1st of January or July. After paying in twenty-six weeks, and he has had his dividend added to his deposits for the six months—declared on the 1st of January or July—let him draw out $50, which will about pay a semi-annual premium on $5,000, assuming the insured is anywhere from thirty to thirty-five years of age. I have reference now to what, in insurance language, is known as "old-line insurance," non-forfeitable, payable at death. Take, for instance, a company like the Manhattan of your city—with abundant assets, well secured, and time-tried—and for every $1,000 insurance he carries, his premiums will be about $12 to $14 every six months. I speak of this company as I am somewhat familiar with their figures, having carried policies with them for several years, making my payments on the plan I herewith suggest. Surely there is hardly anyone in the profession but what can put that much, or double, away every week, and scarcely feel it.

There are many doctors, I am happy to say, who do put $2 a week in building associations, allowing it to accumulate year after year, and when they "buy out" how much have they? At the outside $1,000 or $2,000, according to the amount of the shares, which amount, should he decide to die about that time, can be attached for any indebtedness he may have, before his executors can touch it.

Again, let him die at any time during his building-association membership, he has to his credit only that amount paid in at $2 a week—in one year $104 and interest, same as in a savings bank, only more secure. Let him die at any time during the same period, withdrawing every six months (or twelve if so desired), and he leaves an estate that, for every $2 a week, as suggested, is worth $5,000 that cannot be molested by law.

The practice of medicine to-day, with its many specialties and the numerous free dispensaries and hospitals, cuts deeply into the annual income, of which, after taking out the "family expenses," schooling, horse-keep, etc., there is little left to put away. Hence it behooves us, while in health, to make preparations for our loved ones, and there is nothing more comforting than to know that, with a secure policy for a good round sum, we are ready to meet the summons, come when it may. Very truly yours,

William Judkins, M.D.

216 Race Street, Cincinnati, O.

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A New Remedy for Diabetes is phosphorus in doses of about gr. $\frac{1}{60}$, three times daily.

# New Instruments.

## A NEW CLUB-FOOT APPARATUS.

By GEORGE H. EARL, M.D.,

WAREHAM, MASS.

THE apparatus consists essentially of a bent spring, applied to the foot by means of bandages, or to the boot by means of straps, in such a way as to make traction in two directions upon the deformed foot. It does what the hands do in the method known as "hand working."

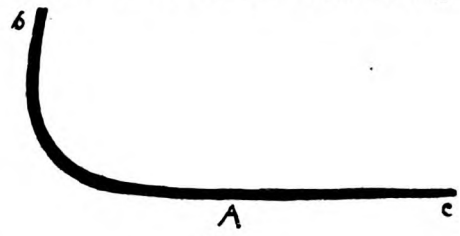



FIG. 1.

Fig. 1 is a view of the spring. Fig. 2 shows the spring applied to the deformed foot. Fig. 3 shows a plan of the spring as fitted to the boot. Fig. 4 is a perspective of the boot with spring and straps applied.

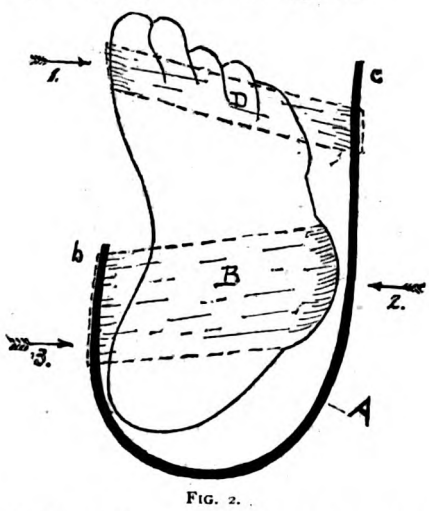



FIG. 2.

The spring is applied by bandaging the short arm *b* to the inside of the foot, just under the malleolus (Fig. 2), the bandage *B* passing over the dislocated bones on the outside of the foot. Then the long arm *c* is bent down

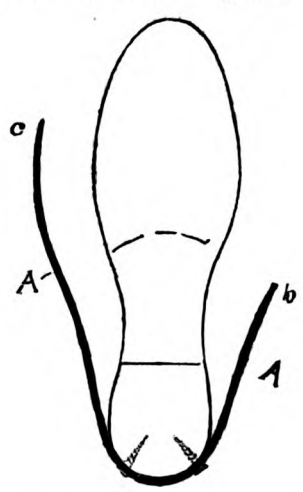



FIG. 3.

along the outside of the foot, and secured by the bandage *D* passing over the end of the first metatarsal bone. Traction is thus made in the direction of the arrows 1. and 2. The arrow 3. represents the fulcrum. After the deformity has been corrected enough to allow the patient to walk on the bottom of the foot, the boot is put on, laced, and the straps *E* and *F* tightly drawn over the ends *b* and *c* of the spring *A* (Fig. 4).

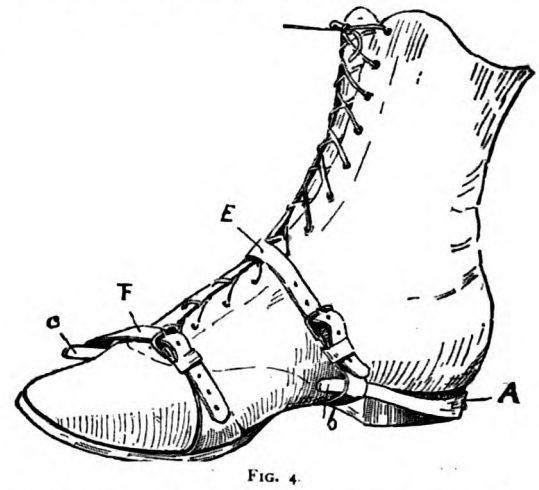



FIG. 4.

The short arm *b*, through the strap *E*, is making constant traction on the dislocated bones on the outside of the foot; and at the same time the long arm *c*, through its strap *F*, is drawing the forward part of the foot around toward a straight line.

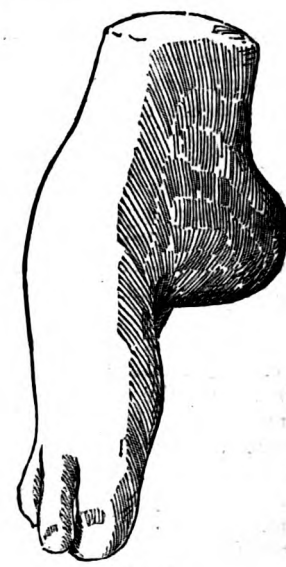


FIG. 5

The splint prevents the foot from turning over while walking, during which the weight of the patient's body is forcing the forward part of the foot up. This latter is

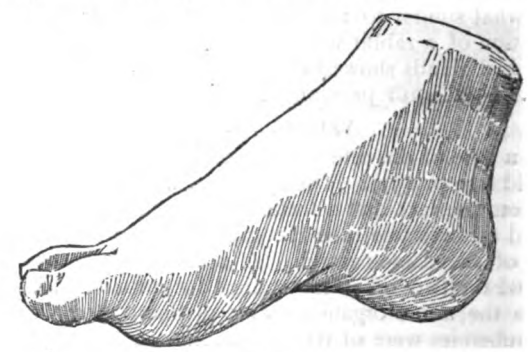


FIG. 6.

the work which "Scarpa's shoe" is especially designed to do, but while on it inflicts severe pain, and prevents the foot from being used.

Figs. 5 and 6 represent two casts, made "before and after." The case is one of congenital club-foot; patient,

twenty-one years of age. Of course, the usual tenotomies were made.

I have neglected to say that the variety was equino-varus, and that the spring is particularly adapted to that form.

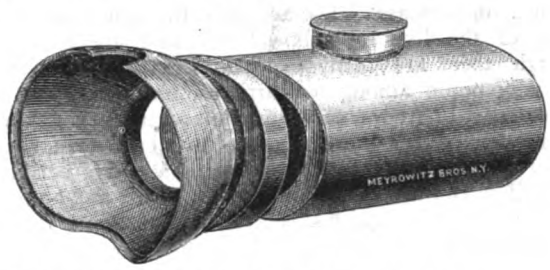
The spring inflicts no pain, can be worn night and day, and be applied by the patient.

## A CONVENIENT ANÆSTHETIC INHALER.

By FRANK DUDLEY BEANE, A.M., M.D.,

NEW YORK CITY.

HEREWITH is presented to the profession a convenient, simple, and effective anæsthetic inhaler, a device evolved from my search for a handy but efficient substitute for the ordinary "cone" or "bag," and one which I have used with uniform satisfaction for several months. Years of experience, including trials of many of the inhalers in the market, convinced me that the bag or cone alone secured rapid, safe, and thorough anæsthesia; that it alone supplied the two requisites, a large supply of the agent and easy regulation of the air-supply. All the inhalers I have thus far tested have proven defective in one or the other or both of these particulars. The inhaler here offered and illustrated consists of a short elliptical copper cylinder, with a rubber hood (mouth-piece) riveted to a metal cap, the latter being removable for convenience in cleansing. The hood-end of the cylinder is encircled by a narrow metal collar to prevent overflow of the anæsthetic in case the cotton becomes supersaturated. The distal end of the cylinder has an adjustable ventilator, surrounded by a dozen small perforations on either side, for regulating the admission of air. A vent in the upper surface of the cylinder, surmounted by a collar and cap, allows of the introduction of the agent used without removing the inhaler from the face. I have found that a packing of absorbent cotton in the cylinder is admirable for holding the anæsthetic; but soft muslin, linen, or other absorbent material, may be substituted.




The advantages claimed for this instrument are:

1. Simplicity. No so-called automatic valves (usually failing to operate) or other complications. 2. A free supply of the anæsthetic, insured by the large size ($1\frac{5}{8} \times 1\frac{7}{8}$ inch) of the hood-cap opening. 3. Easy regulation of the admixed air. 4. Economy of the anæsthetic, as the surface evaporation is very limited. 5. Convenience. It is always ready, being easily cleaned, and occupies but little space in the surgeon's bag.

The instrument, well nickel-plated, is accurately and neatly made by Messrs. Meyrowitz Bros., 295–297 Fourth Avenue, this city.

A NEW OPERATION IN FRANCE.—On July 13th last Dr. Terrier performed an operation which had not been before attempted in France. He established a permanent fistula between the gall-bladder and the duodenum in a woman whose ductus communis choledochus was obliterated, and who, being afflicted with extreme jaundice, presented very grave symptoms. Dr. Terrier had lately seen the patient since the operation. The jaundice had disappeared, the bile passed into the intestine, and the health was excellent.—*Lancet.*

# Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 1 to December 7, 1889.*

WOLVERTON, WILLIAM D., Major and Surgeon, Fort Douglas, Utah. Leave of absence for one month, to take effect on or about December 18, 1889, is hereby granted, with permission to apply at Headquarters Division of the Missouri for an extension of seven days. Par. 2, S. O. 114, Department of the Platte, November 30, 1889.

GARDINER, JOHN DE B. W., Captain and Assistant Surgeon. By direction of the Secretary of War will be relieved from duty at Fort Reno, Ind. Ter., upon the arrival at that post of Captain James C. Merrill, Assistant Surgeon, and will report in person to the commanding officer, Fort Supply, Ind. Ter., for duty at that post. Par. 8, S. O. 279, A. G. O., November 30, 1889.

MCCAW, WALTER D., Captain and Assistant Surgeon, Fort McPherson, Ga. Leave of absence for fifteen days is hereby granted. Par. 3, S. O. 276, Division of the Atlantic, December 3, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending December 7, 1889.*

NEILSON, J. L., Surgeon. Detached from the New Hampshire, and ordered to the Portsmouth.

BEYER, H. G., Passed Assistant Surgeon. Detached from the Portsmouth, and placed on waiting orders.

SIEGFRIED, C. A., Surgeon. Detached from the Naval Station, New London, Conn., and ordered to the New Hampshire.

HALL, JOHN H., Passed Assistant Surgeon. Ordered to the Naval Station, New London, Conn.

KITE, I. W., Assistant Surgeon. Detached from the Naval Hospital, Philadelphia, Pa., and ordered to the Naval Hospital, Pensacola, Fla.

ROSS, J. W., Surgeon. Detached from the Naval Hospital, Pensacola, Fla., and placed on waiting orders.

# Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 7, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 16 | 7 |
| Scarlet fever | 64 | 6 |
| Cerebro-spinal meningitis | 1 | 0 |
| Measles | 52 | 5 |
| Diphtheria | 80 | 19 |
| Small-pox | 0 | 0 |
| Variola | 6 | 0 |
| Pertussis | 1 | 11 |

THE PATHOLOGY OF PAINLESS WHITLOW.—Dr. Thiriar, of Brussels, publishes some notes of a case of painless whitlow, or the so-called Morvan's disease, which he thinks tend to prove that the central nervous system must be affected in this somewhat rare and ill-understood condition. Only one post-mortem examination seems to have been at all fully reported of a case of this character, and that was of one of Dr. Morvan's own patients (*Gazette des Hôpitaux*, April 30, 1889). Here there were both peripheral

and central nervous lesions, the cervical enlargement of the cord and the nerves of the upper extremities being affected. In the nerves there was a hyperplasia of connective tissue, and in the cord an abnormal development of interstitial tissue occupying the posterior column, the posterior cornua, and probably the central gray matter. It was unfortunately not possible to ascertain whether there existed morbid tubular cavities near the central portions of the chord—the form of lesion styled syringo-myelia—which Dr. Thiriar believes to be the condition to which painless whitlow is due. His patient was a woman aged sixty-six, who six years previously had had a severe bruise on the left thumb, which caused a great deal of swelling, which swelling had never entirely disappeared. Fourteen months before her admission the first two phalanges of the ring-finger of the right hand became swollen and painful, ultimately opening and giving exit to some pus. A year later the left thumb again became painful and increased in size, and after a time broke and gave vent to some pus. Since that time there had been very little pain from either of the whitlows. On examination the lymphatic glands on both sides of the neck and in both axillæ were found to be inflamed, and the upper arms were both considerably atrophied and wanting in sensibility. There was no pain or tenderness in the neighborhood of either of the whitlows. The theory proposed by Dr. Thiriar to account for the second whitlow, which came on without any apparent cause, is that the old injury to the left thumb, which was never cured, set up an ascending neuritis which was followed by syringo-myelia, and probably then by descending neuritis on the right side.—*The Lancet.*

Promoting the Spread of Scarlatina.—At the Hygienic Congress in Paris, Dr. de Valcour related that a death having taken place from scarlet fever at an hotel in Monaco, the room was relet to another tenant the next day, and he likewise died of the same fever. It was not till a third case of scarlet fever occurred in this room that the hotel was closed and disinfected.

The Pathogeny of Hemorrhoidal Disease.—In course of a paper on hemorrhoidal disease Dr. Bodenhamer (*The New York Medical Journal*, January 12, 1889) says that the chief predisposing cause of hemorrhoids in the human subject, according to some authorities, is an anatomical one; and, in order to fully estimate the importance of the subject, this cause must be explained anatomically, which is the more necessary inasmuch as just the reverse of it obtains in quadrupeds; and in this explanation regarding the large vascular supply to the rectum, it will be perceived that hydraulics plays the most important part.

Anatomists know that in the inferior portion of the rectum in the human subject a large number of hemorrhoidal veins exist; these veins are comparatively of large size; they occupy a peculiar depending position; and they receive but little support from the loose cellular tissue which surrounds them. Together with the foregoing facts we must consider the entire absence of valves in the depending plexus of the vena portæ. These several conditions of the veins of this part consequently tend to a retarded or sluggish circulation, the blood being more or less detained in them and favoring stasis. Whenever the body is erect, the blood therefore accumulates in these veins, so that under the most favorable circumstances they are subjected to more strain and pressure than any others of the body, and, in consequence of the want of valves in the portal system, the whole weight of the column of blood in them reaches from the liver or the heart without any interruption downward. These several circumstances act no inconsiderable part in the pathogeny of hemorrhoids. They necessarily give rise either to hemorrhage, vascular turgescence, hyperæmia, congestion, or hemorrhoidal tumors. Indeed, any mechanism whatever which opposes the free circulation of the blood in that hybrid blood-vessel of the liver, the *vena portæ*, may prove a predisposing or an efficient cause of the hemorrhoidal disease. According to authority, therefore, the depending situation of the veins of the portal system must always be a predisposing cause of hemorrhoids in man so long as he maintains the erect posture. The absence of this cause in quadrupeds because of the horizontal position of their bodies is not, in the opinion of the writer, sufficient alone to prove that they are on this account entirely exempt from hemorrhoids, as some authors maintain; but this cause may be a real one, so far as it goes, and have some bearing on the fact that animals are not subject to hemorrhoids.

Effects of Heat on the System.—A series of articles on tropical and subtropical climates has been published by Dr. Cullimore in the *Medical Press*. Regarding the effects of heat on the human system the author says that they differ materially according to the duration of residence, and, therefore, also, as regards travellers and permanent residents. At first, and particularly in the hot season, the functions of respiration and circulation are considerably increased, as is also the vital capacity of the lungs. The circulation, as shown by the greater power and frequency of the pulse, is excited to a febrile or semi-febrile condition; the temperature of the body being in some instances heightened, at least for a time. The appetite and spirits are good, and the capacity for enjoyment and travel as a rule remain unimpaired. After a certain sojourn or period of residence, ranging from six months to a couple of years, this state of exhilaration and excitement ceases, and the new-comer begins to approach somewhat the condition of the indigenized white man, and if he remains, say for nearly a lifetime, without disease, that of the native himself. He has seen some few Europeans in India who could with impunity set the sun at defiance, and one, at least, who was not a teetotaler, who could do so without the aid of umbrella or hat. The vital capacity and respiratory movements become lowered, the pulse, though perhaps more frequent, loses its tension, the heat of the body assumes the normal condition, the plumpness and rotundity, the weight, the firmness of the body diminish, and the excretions, as the urea and carbonic acid, decrease. The action of the skin is increased. That of the liver and bowels at first are increased, though there are many exceptions, constipation being not uncommon among new arrivals, particularly on the West Coast of Africa. The amount of urine is lessened, the process of digestion endeavors to adapt itself to the novel surroundings, the appetite gradually becoming languid and in need of stimulation. There are, however, here also many exceptions. There is prostration of nervous energy and lack of mental activity, not, however, due so much to the influence of heat, unless severe and continuous (above 84° F.), as to heat and excessive moisture. In subtropical and tropical Australia, though the heat is considerable, it is dry, and the go-aheadism and mental capacity of the colonists are proverbial. In damp, low-lying countries the reverse is the case, for not only are the natives degraded and apathetic, but horses and sheep languish and die. As regards active disease, while we recognize great and continuous heat, particularly when associated with extreme moisture, as its main predisposing cause in the tropics, it is to the chilling effect of variations and oscillations of temperature, generally accidental, relatively greater in tropical than in temperate climates, of heavy rains, inundations, extensive marshes, and uncultivated jungles, and, according to some authorities, emanations, therefrom, that is to be attributed the main exciting cause of disease. Sudden falls and high diurnal ranges of temperature, cold winds blowing, and perhaps rain falling, on a sleeping and perspiring body, rapid alternations of heat and cold, are more favorable to disease than a climate with a steadily high thermometer. Suitable clothing and careful attention to the erection and site of the dwelling, to sanitary and individual precautions and management, will, however, in great measure enable us to prevail against the former, while with the latter we are almost

powerless to contend. We may alleviate its attendant discomforts, and even by exercise and attention to diet, etc., stave off its ultimate results, but eventually tropical anæmia, with or without a certain amount of acclimatization, with attendant racial deterioration, lays hold of the system, and the healthy European, or, at all events, his children, assumes many of the mental, moral, and physical traits of the half-caste, and even of the native himself.

Monks as Physicians in the Middle Ages.—Fechin, who figures as the first presbyter named in the Third Order of Irish Saints, according to the famous catalogue given in Archbishop Ussher's "Britannicarum Ecclesiarum Antiquitates," is an interesting example of the circumstance, brought out into strong relief by Montalembert, that the early mediæval monks were the depositories and practitioners of the best medical knowledge of the time. His sphere of activity was mainly in the West of Ireland, and according to Archdeacon O'Rorke, the historian of the County Sligo, leprosy was the disease the saint was most frequently called in to cure. At Fore he was one day begged by a loathsome leper to take him in charge, and Fechin, having carried him on his back to the monastery, left him in the hospital and consigned him to the care of Themaria, wife of King Domnald, who, being promised a heavenly crown in recompense, undertook the unpleasant task. The Queen tended the patient devotedly, and she had her reward; for, so the chronicle runs, "next day, when the saint was going to the hospital, he saw a globe of fire ascend toward heaven from the roof of the building, and on entering the sick-room found that the man they had been nursing, and who had departed in the form of fire, was no other than our Lord Himself—the whole occurrence illustrating the truth of the words, 'Inasmuch as ye did it unto one of these the least of my brethren, ye did it unto me.' In going away the leper left behind a staff and a lump of the purest gold, with directions to the Queen to give them to Fechin, which she did, and the staff became the famous *Bachal Fechin*, with which the saint is supposed to have performed many miracles through life, and which was held in great reverence after his death; but the gold he employed in building hospitals and in other works of charity." Skilfully disentangling this and such-like legends from their mythopæic drapery, Archdeacon O'Rorke accumulates a mass of evidence, corroborated from other sources, which makes it clear not only that the chief, if not the sole, practitioners of Ireland in the seventh century were monks, but that the disease they were most commonly confronted with was leprosy, wrongly supposed to have been first brought into Europe by the Crusaders.—*The Lancet.*

Fraulina Scorbilis in Dysentery.—A correspondent, referring to a paragraph on this subject taken from the *Avisos Sanitarios*, suggests that there was an error in the original notice, and that the writer probably meant Paullinia sorbilis or guarana, the use of which in the treatment of dysentery is by no means a novelty.

Salicylic Acid in the Treatment of Malignant Scarlatina.—Dr. Shakowaki writes that he has administered salicylic acid with the greatest success in one hundred and twenty-five cases of grave scarlatina occurring in children, the mortality being reduced to three and one-half per cent. Ordinarily his method of administration was in the form of a mixture consisting of one part of salicylic acid to 75 parts of water, and 30 parts of sirup of orange-peel, a teaspoonful of this being given every hour during the day and every two hours during the night. He writes that under the influence of this remedy the temperature is rapidly reduced, in certain cases even at the end of forty-eight hours, the temperature falling four degrees. Habitually all traces of fever disappear after the tenth day of the disease. Nevertheless, the author advises to prolong the treatment for some time longer than this in progressively decreasing doses, so as to avoid any danger of relapse. Through the use of this remedy the author believes that he has avoided the most serious complications of scarlatina, such as uræmia, anasarca, and diphtheria. He claims that this medication will only be ineffectual when given too late—that is, after the fourth day of the disease, or when there exists some grave chronic complication.—*Therapeutic Gazette.*

The Disinfection of Books.—The Boston Health Board has ordered that the public library ticket, held by any person in whose family a case of contagious disease has occurred, be stamped so as to show the presence of such disease. All books returned with a card so stamped are to be disinfected, and no other books can be taken out on this card until an official notification is received that the danger of contagion no longer exists.

Glycerine Soap Suppositories.—Dr. Schaffer recommends the use of suppositories cut from a cake of glycerine soap as a substitute for glycerine enemata. The soap is said to contain thirty per cent. or more of glycerine, and the remedy is as effectual in this form, he claims, as it is when used pure.

The Ideal Orthopedic Surgeon.—Orthopedists have been in the past very prone to run in ruts, and have made very slow progress. They have many times degenerated into mere mechanics and have deprived themselves of the right to be called surgeons. While I believe the orthopedist should be eminently conservative, I do not believe that conservatism consists in refusing to operate. The greatest obstacle to the rapid advancement of orthopedic surgery to-day is the tendency of the general surgeon to operate upon every orthopedic case that comes in his way, while the orthopedist too often refuses to operate, applying an apparatus to every case. Between the man who operates upon everything and the man who operates upon nothing the poor cripple has a hard time of it, and orthopedic surgery is brought into disrepute. To my mind the ideal orthopedic surgeon is he who exercises the greatest judgment in drawing the line between the cases that require operation and those that do not, who is equally skilful on the one hand in applying the knife and on the other in applying proper apparatus, and who is without prejudice in either direction.—Dr. J. E. Moor, in the *Northwestern Lancet.*

Intrapleural Injections in Pleurisy.—Dr. Juhel-Renoy recommends the use of intrapleural injections of a one per cent. solution of zinc chloride in the treatment of pleurisy. After evacuation of the serum he injects very slowly a small quantity of this solution, withdrawing it at the end of ten or fifteen minutes. Before the injection the fluid is boiled and then cooled to a temperature of about 95° or 100° F. He claims that by this method the duration of the disease is materially shortened.

He had Quite a Bill at the Druggist's.—The *Tocsin* gives the following particulars relating to the physicking of a patient in the olden times, the good old times, when people took physic and plenty of it, firmly believing that it did them good. The individual in question, Mr. Samuel Jessup, died, May 17, 1817, at Heckington. He was defendant in a trial for the amount of an apothecary's bill at the Lincoln Assizes. The evidence at the trial gives the following details: In twenty-one years (from 1794 to 1816), he took 226,934 pills, supplied by a respectable apothecary in Bottlesford, which gives an aver age of 10,806 pills a year, or 29 each day. In the last five years preceding 1816 he took the pills at the rate of 78 a day, and in the year 1814 swallowed not less than 51,590. "Notwithstanding this," says the *Tocsin*, "and the addition of 40,000 bottles of mixture, besides juleps and electuaries, set out in fifty-five closely written columns of the apothecary's bill, he lived to the age of sixty-five years."—*The Hospital Gazette.*

A New Operation on the Urethra.—Dr. R. Gersuny, of Vienna, who some time ago transplanted a rabbit's nerve into Professor von Fleischl's arm, has recently

devised a new operation for incontinence of urine. In a case of epispadias in a girl, the urethra admitted the little finger, and had the form of a funnel, one centimetre long; the clitoris was cleft; there was complete incontinence of the urine. At fourteen years of age, the mucous membrane corresponding to the cleft was excised from the anterior commissure of the labia up to the neck of the bladder, and the edges of the cleft were sutured. The girl was then operated on by Professor Pawlik, according to his own method, but the patient could hold her water only for an hour when sitting; on walking or standing, she could not do so at all. Five years later Dr. Gersuny operated on the patient, who was then nineteen years of age, by laying bare the urethra as far as the arcus pudendi, twisting the external orifice of the urethra to the extent of a semicircle (180°), and suturing it in this position. The success was incomplete, and this was also the case after a second operation, in which the urethra was further twisted to the extent of 90°. Four weeks later a further twisting, to the extent of 180°, was effected. This proved completely successful. The external orifice of the urethra was turned round to the extent of one circle and a quarter (450°), and the urethra was twisted in its longitudinal axis in the form of a screw. After the last operation there was retention of urine (ischuria) for three days, so that the patient had to be catheterized. From that time she could micturate spontaneously, and the urine never passed involuntarily. The capacity of the bladder was at first from 100 to 200 cubic centimetres. Evacuation took place under strong pressure, and lasted for ten minutes. This condition improved rapidly, and after five months the patient could hold her water for five hours in any position; then she was attacked with strong tenesmus, and evacuated, without effort, half a litre of urine; the act, however, still required about four minutes. The progressive improvement was the result of the gradual dilatation of the bladder and the strengthening of the detrusor urinæ. The operation of Dr. Gersuny is indicated in those cases in which the sphincter of the bladder is quite powerless and the detrusor intact.—*British Medical Journal.*

A Precursor of M. Brown-Séquard.—M. Megnin publishes, in the *Journal des Connaissances Médicales* of August 15, 1889, a note in which he announces that he has discovered, in a book entitled "La Chasse au Chien Courant" (p. 202), published in 1838 by Elzear Blaze, a passage couched in the following terms: "When you have the fortune to kill a wild boar, do not throw away the testes (les suites), they will prove very useful to you later. If perchance the desire to marry seizes you at an advanced age, when only vague hopes of becoming a father remain to you, *vous savez?* There are moments when one has confidence in himself, then everything vanishes like a phantom. *Eh bien!* the testes of your wild boar, dried and powdered, diluted with broth of an old cock, and swallowed fasting, by you and your spouse, will have a marvellous effect; children will be born to you every nine months, and you will be obliged to come to me asking for another recipe which will bring about the former condition of affairs." I give this recipe to you just as I have found it in the works of a learned physician. "Magna est uxoratis inquietudo et animi perturbatio prole sterilis existere: propterea, ut tanto infortunis liberentur prolemque habeant, per aliquot dies jejuno stomacho vir et uxor cum jure galli veteris testiculorum apri in umbra exsiccatorum pulverem capiant; profecto brevi tempore optatum adispicentur, ut in multis sterilibus ex quacumque causa non semel expertum est." (Julii Cæsaris Baricelli, à Sancto Masio, doctoris medici Hortulus Genialis. Genovæ, 1620.) Répertoire de Pharmacie. [This seems to be a coq-à-l'âne.—Ed.]

Thermo-palpation.—It has been known for some time that there is a difference in the surface temperature of the body corresponding to the organs underneath—that is to say, the temperature is higher over the lungs than over the liver or the heart. From a communication published in the *Orvosi Hetilap*, one of the chief medical journals in Hungary, by Herr Jonás and Dr. Benczúr, it appears that this fact is available as a basis for a novel method of physical examination which may be styled "thermo-palpation." These observers say that it does not require any peculiar sensitiveness of touch or any special education to appreciate the difference of temperature on passing the fingers over the surface of the body from the situation of the lungs to that of the liver, and that patients themselves, and students who had not yet learned percussion, were quite able accurately to detect the height of a pleuritic effusion by the difference of temperature. Diseased and healthy organs can be mapped out in this way by going over the surface, first, say, downward and then upward, when the line of demarcation will be distinctly felt. The general principle appears to be that organs containing air, such as the lungs and intestines, permit of greater surface warmth over them than more solid organs, such as the heart, liver, spleen, etc. Of course, instead of using the fingers, a differential thermometer may be employed, and much slighter differences may be recognized than is possible by the touch alone.—*The Lancet.*

Contamination of Well-water.—A writer in the *Annals of Hygiene* for October, 1889, relates a curious fact which may tend to shake the confidence of many country residents in the purity of their water-supply. It is generally supposed that there is no danger of contamination if the cesspool is at a lower level than the well and at some distance from it. But in the case to which the writer refers there were two wells on the place, separated a distance of two hundred and seventy-three feet from each other, and one being fourteen feet lower than the other. Yet when water was pumped from the upper well the water in the other was very decidedly lowered, showing that there was quite free communication between the two. If the lower one had been a cesspool, the water in the upper well would doubtless have been contaminated.

The Brain and Moral Culture.—Under the title of "Gehirn und Gesittung," Professor Mynert, of Vienna, read a paper before the last meeting of the German Association of Naturalists and Physicians, in which he considered the brain as an inhibitory apparatus against the lower and more instinctive natural impulses. The higher its development the greater is the tendency to subordinate the particular to the general, and even in the lower animals we see a high state of social growth, as in the communities of bees and ants. In the development of the human individual, we see in the infant, a being entirely wrapped in its instincts of self-preservation, the "primary ego" is predominant, and the child is an egoistic parasite. As development goes ont his stand-point is passed, conscience assumes its priority, the brain acts as a check on the purely vegetative functions, and the "secondary ego" takes precedence over the primary one; and this is the general order of society we designate as civilization or social order (Gesittung). If this inhibition becomes weakened, as in progressive paralysis, then we see the disordered predominance of the natural instincts or impulses, and when it is totally lost the individual is in the position of a criminal, who opposes the ethical order of society—a parasite, and one of the worst kind, one who not only lives upon his host, but destroys him in so doing.—*American Journal of Insanity.*

New Remedies for Whooping-cough.—Dr. Andeer (*Centralblatt f. Med. Wissensch.*) gives resorcin in one-half to two per cent. solution, according to age. Half a wineglass is administered several times daily. Dr. Stepp (*Deut. Med. Woch.*) gives one to seven drops of bromoform in water three to four times daily. The bromoform should not have any red color, as it then contains free bromine and is irritating.

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## Original Articles.

### RELATION OF MEDICINE TO THE PROBLEM OF SOCIALISM.[1]

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MR. PRESIDENT, LADIES, AND GENTLEMEN: When I received the notice of my appointment as your orator upon this occasion, my impulse was to write at once and decline the honor. I could not see that my life or my opportunities had been such as to enable me to reach the high standard which should be obtained upon the occasion.

If such was my first impulse, you can easily comprehend how greatly it was intensified when I fully understood what had been said here in these halls by those whom you had honored in the past. Were I to mention but one name, and that the name of John W. Draper, no one within the sound of my voice could question the fitness of the sentiment.

Because he was a "Doctor of Medicine," who impressed himself not only upon the very foundations of our science, but in his work upon "Intellectual Development" did so much to impress layman, physician, and priest with the grandeur of medicine, grand not only in its relation to individual man but in the influence exerted by its disciples in the preservation and revival of learning, a preservation and a revival about which clusters all that is worth having in the life of to-day.

The ripe scholarship involved in his productions was fittingly offered here, and such is my estimate of your position, your influence, your mission, that nothing short of such products is deemed sufficient by me for such an occasion as this. You can excuse me, then, when I repeat that the realization of my task oppressed me. But I trust to your leniency, and will pass on to the fulfilment of my office as best I can.

The selection of a subject of discourse is by no means an easy task where the audience is as heterogeneous as prevails upon the occasions of your annual meetings. A physician can always speak to a company of physicians, but when the laity enter he feels the restraint of his technical training.

Your orators have met the difficulty in many ways, so that few questions of general yet professional interest have been left untouched. Medical education has received the most distinguished consideration, the advances in medical knowledge have been ably presented, our history, ancient and modern, has been unfolded, and the gifted Roosa, casting the horoscope, has supplemented Lord Lytton by differentiating for us our position with the "coming man." What, then, is left for me to-night? The Preacher has said, "There is nothing new under the sun." The man with an absolutely novel idea is a phenomenon not often seen in history or literature. All of us are borrowers, and it has been justly said that if ideas were refused recognition because something similar had been propounded before, there would be a pretty outlook for civilization. Certainly there would be a depressing outlook for most speakers were they not permitted to seize upon some topic of general interest, and endeavor, by rearrangement, perhaps by developing some fresh association, to offer something in return for your patient presence before him.

[1] Being the Anniversary Address before the New York Academy of Medicine.

It is in the rôle, then, of one who presents a familiar subject in a new association that I appear to-night.

I have stated that I would speak upon the relation of our profession to some of the questions of the day. I shall modify this and say "the question of the day." No less an authority than Professor Seelye has but recently said, "There is one question of our time toward which all other questions, whether of nature, of man, or of God, steadily tend. No one will be likely to dispute the affirmation that the social question is, and is to be, the question of our time." In my own case the impression created by this remark was fixed and intensified by the perusal of a small volume called "Our Country: Its Possible Future and its Present Crisis." The broader bearings of social questions had been too far removed from the busy routine of my daily life for me to give more than a passing notice to it, and had it not been that I saw certain phases of the question which were touched somewhat nearly by us my interest in it would have remained general.

Believing, then, that we have something more than a general interest, I propose to ask your indulgence while I endeavor to trace the relation of medicine to this social question.

We should be encouraged to this inquiry by the wide-spread interest which it is evoking. One of the surest evidences of the truth of this assertion is to be found in the frequent and able discussions and dissertations upon it in the current literature of the day. Politics is making of it a factor in government, and the Church, conscious of the moral aspects of the question, is fast awaking to the necessity of an active censorial position on its part.

The social question may be defined as an inquiry into the status of the orders of civilized people, and their relations one to the other in the economic arrangements of the social system. The recent growth of the inquiry is due to the conviction that the relations are becoming dangerously abnormal through the action of preventable causes. These causes are being gradually defined and remedies are being sought for by many of the best minds of the day.

As is to be expected in such a question, there exist wide differences of opinion. But upon one point all appear to agree, namely, that discontent with the present arrangement and relation is wide-spread, and that this discontent is assuming the nature and proportion of a defined class-question upon which the two great orders of present society are arraying themselves, the one in opposition to the other.

The question assumes phases which differ somewhat in different countries according to the kind of government which prevails, and, as enunciated by the class in whose interest it was first raised, is called "Socialism." It is the belief of many, and history seems to confirm it, that in Socialism we but witness a continuance of that process by which man as a whole is being ever lifted upward. Providence, ever careful of its products, seems to will it that the classes into which man arrays himself shall never be too far separated, and when this interval reaches certain dimensions forces are set at work by which its component parts are made to approach one to the other, always with the result of lifting the mass upon a higher plane, the most striking change being developed always in the condition of the lower order, which is continually being levelled upward. Examples of the process stand out in every epoch.

To go back no further than nineteen hundred years, we

find a movement beginning in an obscure village of Palestine which, extending itself over the lower classes, dominated the Roman empire, and subdued every conqueror who successfully overran the realm. The underlying principle was betterment of the lower order, and in that far-reaching agitation it is not difficult to discover the greatest step in social evolution recorded in history.

We see it again in the Reformation, and its latest imprint stands before us in the tragedy of the French Revolution.

"Socialism," however, was scarcely a formulated creed until about the beginning of this century. The stimulus derived from the French Revolution initiated it, and this, together with the growth of the democratic idea of government as witnessed in this country, may be said to have developed it. Realizing that little could be accomplished save through political power, its first aim has been toward securing the ballot. Its history so far has been largely made up of successful efforts to that end, so that to-day in most civilized countries political power in greater or less extent is practically conceded it. In this country we see the highest development of its political effort, and there can be no question that, conscious of its power, it is making ready to advance toward the end and aim of its existence. To-day it practically stands organized for self-protection; its next step will be one of aggression.

"Socialism," then, is the expression of the lower orders of their discontent with the conditions of their life, and is the formulation of its ideas and purposes as to the remedy. It draws the line with sufficient clearness between itself and its opponent, so that no one need be ignorant of its purposes.

The question at issue is being gradually narrowed to that of property rights, the term property being made to cover everything out of which the man meets his daily wants, whether it be his money accumulations, his hands, or his brain. It is interesting to note that while the successful working of republican government in our country stimulated to a tremendous degree the growth of Socialism in Europe, yet Socialism has never until the present day been able to assume a definite shape in our midst. Our peculiar position has undoubtedly been responsible for this immunity. The first aim of Socialism, political power, was conceded by us at the outset, and as for the question of "property rights," it could have no hearing.

In fact in this, a new country, such was the breadth of resource, such the beneficent influence of soil and climate and of government, that all the conditions securing content so far outstripped those of an opposite tendency, that anything like general dissatisfaction in any one class of the population was an impossibility. Profit and prosperity being so easily in reach of all, the complaints of the malcontents were safely set down to laziness or viciousness. A most curious condition of affairs has been evolved, however, from what was apparently the most fortuitous combination of human circumstances. The fundamental principle of our system was declared to be the freedom and equality of man in the pursuit of any of the just purposes of life. Our domain being large, and population relatively sparse, immigration was successfully encouraged. Ignorance being recognized as a threat to the State, education was amply provided for and carefully fostered. Out of these sprang that marvellous manifestation of human force seen in American energy. Now the doctrine of equality can mean but one thing, namely, the freedom of all to compete for the prizes of life; and certainly, here with us, it has produced an amount of material advancement such as the world never before witnessed. The pace at which we have moved has been indeed tremendous, but while demonstrating some of the advantages of freedom, it has come to develop a well-recognized law of nature, the survival of the fittest. It begins to show that to the strong literally belongs the victory. It is interesting to note, too, that this seems to be the case in both of the orders into which our society has been divided. Already combinations for the purpose of destroying freedom in competition are assuming shape in each. It is only necessary to point to the restrictions upon imported contract labor and those upon apprenticeship sought for in one class, and the combinations to check production and expenditure in the other. It would appear, then, that the doctrine of human equality was being worked out among us to a point which will demonstrate that it has inevitable natural restrictions.

The suddenness with which this apparent failure of the practical application of the doctrine has come upon us is mainly due to the abnormally rapid increase in our population through immigration. For this increase has been mainly in the order which has the least in the shape of worldly possessions, and therefore feels most the pressure incident to its acquirement.

Instead, therefore, of a limited discontent, which could safely be put down to laziness and viciousness, we find ourselves possessed of a rapidly spreading dissatisfaction with the present state of our economic conditions, which can be traced to the strain put upon man's resources by the free and active competition for what there is to be had of profit and prosperity in a rapidly increasing population. And this is not all. When you educate a man you encourage him to institute comparisons; he institutes them, and when applied to himself content is not always the result. One would suppose that the same education which enables a man to institute and apply comparisons would take him higher than mere discontent suggests. This is true only so long as he feels that his natural powers are equal to the demands of his situation. And no matter under what conditions he lives, the moment that his powers of comparison prove to him the insufficiency of his natural forces in the struggle which society lays upon him he will begin to agitate for a change which will neutralize his disability, one, in fact, that will admit of a wider application of the doctrine of equality than is contained in the laws of the system under which he may live.

Here in America there is a fear that education may not enable him to reconcile the incongruities which his observation tells him exist between the facts of his daily life and the assertion upon the equality of man contained in that corner-stone of his Government, the "Declaration of Independence." Such an one is apt to see in the doctrine of the equality of man a panacea for economic inequalities which he sees about him. And if they touch him sorely a selfish interest will lend zest to his desire to apply it to his betterment. But the essential point for our purpose is that he is being continually told by those who seek his vote that his Government was initiated and constructed upon that idea, so that, whether there be wisdom in it or not, whenever the inequalities of his situation in the social or economic order press heavily upon him he will contend for its application, the result of the contention depending, of course, upon the strength and the efficiency of his combinations. We have seen that Socialism is a question of property right: the term property being used to cover all that a man possesses with which to meet the wants of his daily life, whether this be his hands, his brain, or his surplus (that is, his invested or hoarded money). There are two ways for a man to better his property condition. One is to get it from those who have an excess above their necessities, by taking it by force, either directly or else through law enacted to that end. The other is to get it from those possessed of the excess, by the exercise of superior mental or bodily skill in untrammelled competition. But it must be remembered that the holder of the surplus is possessed of three of the elements of property as defined. And such is the preponderating weight of surplus that it turns the scale in favor of its possessor. It will be recalled by all of us that a war but recently swept over this country which, in the abolition of slavery, emphasized the inalienable right of man to the absolute and untrammelled possession of his own hands and his own brain.

These elements of property may then be put outside the field of contention. There remains but one other, "Surplus." The Socialist, however, virtually argues that the only property right inherent to man is his hands and his brain, that surplus is a tyrant to be controlled, to be directed to the general rather than to the individual good. No one can say how he will do this, but that he will attempt it is self evident.

Now surplus was never so clearly defined, so definitely accentuated as the controlling force in man's affairs as it is to day, the mass of men lying almost in grovelling attitude before the golden calf. It would appear, then, that the destiny of surplus was in its own hands.

Resolving surplus into its equivalent, namely, its possessor and controller, the upper order, we see at once between what forces the issue is being formed. It is quite evident that Socialism has no intention, for the present, of permitting the question in open politics; it looks rather as if its purpose was to work parties toward its position by using its combined vote in one or the other as it sees its interest. Practically this constitutes with us, so far, its political organization for its economic ends. It is fair to assume that the question will ultimately reach a just solution, but it is evident that there will be much friction in the solution of its various phases. With us so far it has been free in the main from the violent acts which have attended its development in other countries, and many think that, because of the nature of our institutions, this freedom from disorder will be maintained. Others, on the contrary, feel because of our very freedom from governmental restraint that the question is almost as full of explosives as was that which culminated in the French Revolution; for, like that, it is a class question entering every household in the land. It may be nonsense to compare the lower orders of this country with those of France one hundred years ago, but it is as well to remember that human aspiration was the life of that movement, and human aspiration is certainly at the bottom of its continuance in Socialism. Someone has said that there is a popular faith among us that God takes care of children, fools, and the United States. It begins to look as if we might be thrown upon our own resources. Fortunately we have been liberally supplied; it is only necessary to look to the proper employment of our means.

It goes without saying that this question is primarily one of statecraft. It is grand politics, the province of the statesman.

But so was Christianity, so was Mohammedanism, and if I mistake not there are excellent proofs of the influence of medicine in propagating the one and in civilizing the other. If you will turn to the delightful pages of Draper's "Intellectual Development of Europe" some suggestive facts will be found concerning the influence of the schools of medicine in turning the Arab conqueror to ways of peace and intellectual culture, and in another chapter will be found statements full of food for our thought concerning the propagation of Christian ideas through the action of a certain Perabolani.

Your orator, John Watson, in his sketch of the "History of Medicine," delivered here some years ago, told you of the attitude of medicine in those days. How in the person of the Perabolani it worked as an engine of Christian propagation, and how in the person of its temples of learning it stood upon the side of the pagan. How in the contest that finally witnessed the triumph of Christianity we were rent in twain, our culture deposed, and our ignorance installed as directing influence in our affairs. For us, then, there is both warning and encouragement in turning the pages of history. The state must rest upon the intelligence of its people for the wise solution of the questions which vex it, especially upon the intelligence of the leading orders of its society. Are we not one of them and do we not stand out more prominently than ever before as a recognized force in the social system of the day? As we have borne no small part in great questions of the past, let us see that we be not blind to our mission of the present.

In viewing this mission, let me again remind you that the honest believer in "Socialism" looks upon the fulfilment of its essential principles as not only possible but unavoidable; for he regards it merely as a phase of that evolution process through which man in his entirety is being carried ever onward to the more perfect state of existence. And yet we cannot shut our eyes to the fact that this is far from the position assigned it by the interest against which "Socialism" must operate, if it act at all; and it is easily seen, whether it prevail or not, that from this difference dangerous friction must result. Certainly, it becomes us to inquire if this friction may not be lessened at some points through our efforts.

The content of a people is dependent upon their physical well-being, the first essential being a healthful life. The conditions necessary are at the command of the one order, so that they have but themselves to blame if it is not allowed. But how is it with that other which is forcing the social question to the front? Is there another element in any civilized land, but especially in this, which is better placed than ours to properly answer this question? As I look over this audience I venture to say my eye falls upon a body which, through its members, touches every class. Yes, every person in this community. And this community, what is it? Is it not the exponent, do we not find in it the very essence of that question of socialism which is beginning to press so hard upon us? In this seething mass of humanity, with its pleasures on the one hand, its sufferings on the other, its aspirations here, its lost hopes there, we have a very epitome of the whole human race. And as we pass from home to home, from tenement to tenement, do we find the conditions of healthful life present or even possible with the majority of our population? It has been said that our profession is the buffer between the colliding forces of society; and we are so because as individuals we hold more of their confidence than any other class. Are we doing our duty in this position? if not, in what are we failing? Gentlemen, there is a woful ignorance, perhaps a woful blindness on the part of the mass of the high order to the physical condition of the lower, and it comes from the fact that they are too busy with their own affairs to trouble themselves about the matter. They will give their money lavishly, provided they are not called upon to give their time. But this problem requires attention as well as money, thought as well as prayer. I take it that in this matter our mission is from the higher order to the lower, from the lower to the higher. How many people in this town really know what are the conditions of healthful life? They have a general idea, but general ideas are not working formulæ. We need working formulæ. The public, both orders, must be taught that much of the discontent lies in the absence of the conditions of healthful life. And then they must be taught to know those conditions, to study those conditions with a view to their introduction and their acceptance. I say acceptance, because it is well to remember that it is as difficult to get the ignorant to apply to himself the laws of physiological science as it is the laws of theological science. In all this it is recognized that theories must vanish, and what is done must be done in accordance with the accepted rules of economy in business pursuits, simply starting with a just interpretation of that law of healthful existence which applies to the condition to be corrected. This is as far in the direction of specification as my time will permit to-night. But, after all, we are here this evening to inquire more as to the relation of medicine to a general question, than its specific application to any one part of it.[1] This is the harder task, but the first step toward it is to ask about it. But will the public heed us? That, gentlemen, depends upon our attitude in the matter. We must drop our ex-

[1] Dr. H. D. Chapin: "Preventable Causes of Poverty," Forum, June, 1889. Alfred H. Peters: "The Extinction of Leisure," ibid., August, 1889.

clusiveness, and understand once for all that we only need speak in plain terms, that plain people can comprehend, upon the practical application of our facts, not our theories. Our facts are plentiful enough, as you well know. In the present social order we appear as teacher, as practitioner. As practitioner, as minister to his ailments, man has always accepted us, but as teacher he has been less receptive. Man always exacted of us more than we could give, namely, eternal life. And failing to get this, he easily became sceptical as to whether we could tell him anything at all about life. Having but a surface knowledge of nature, supernaturalism became his mainstay, remaining his prop until within the days of our own knowledge. And yet while he asked of us the elixir of eternal life, he failed to furnish us the educational conditions essential to a knowledge of the laws which govern even the short life nature assigned him. This perhaps was natural, recognizing as he did that he was to be the material out of which we were to carve our science. Seeking our material as best we could, as nature's disciples, we were often brought to antagonize some of man's most sacred instincts, bringing upon us his suspicions and his wrath. Thus a habit of reticence concerning what we did know has grown upon us, which perhaps may not be misnamed exclusiveness. But the necessity for reticence which so long hampered us is fast disappearing, the conditions essential to our progress are more generally recognized and conceded, and this, together with the decline in the faulty application of supernaturalism, is rapidly changing for the better the situation heretofore existing between our body and the public. We owe our emancipation to the strides made by the collateral sciences, but more particularly to biological and anthropological research; for, after all, ours is but a subdivision of the science of anthropology. Man's curiosity concerning the laws of other life has at last fully possessed him with the desire to know something, yes, all of those that pertain to himself. Quick to avail himself of everything that nature's law could contribute to his pecuniary profit, he is awaking to the fact that that profit can be easiest gained and fullest enjoyed by him who best fulfils in himself the law which nature gave him to live by. And with the dropping of the scales he now begins to see that as the spiritual perfection can only be reached by seeking for, by finding, and by following God's moral law, so physical perfection can only be had by seeking for, by finding, and by following that law which his God has given him to live by when he enters into the land to possess it.

If ever there was an age in which knowledge of the laws of life, of health, and of death were more universally sought for than is this history fails to record it; for education and competitive life have brought the civilized world to our door, so that it may truthfully be said we stand upon the threshold of the golden age of medicine. It is indeed our opportunity, and if we fail to grasp the occasion it will be the fault of just such representative bodies as I have the honor to address to-night. It is as the teacher, then, that I will speak to you. You meet together here from time to time to consider many questions, but there is a wonderful sameness about them all. They relate to the peculiarities of this or that disease, the usefulness of this or that remedy; occasionally a question of ethics frets you, and now and then you vex yourselves about the question of education for medical men. Do you ever much trouble yourselves about the medical education of the great public? Perhaps you think you do this through the medium of your members, and that providing for their equipment your duty ends. Ah! believe me, Academicians, when I say that useful as this office is, it falls far short of a fulfilment of your mission.

Let us take a broader view of our mission than is involved in these processes of mere self-instruction. Let us shake off the exclusiveness of our teachings, and, taking the public more into our confidence, speak directly to it of those laws of life and health which are each day becoming so necessary to it in its present emergency, and which they are eager to receive from us as its recognized expounders.

Drive home to him whose property right is represented by his brain, by his muscle, that his body is his capital out of which his profit must come, and if he consume all of profit he gets from year to year, it is the more important in the economics of his life that he keep his body in the best working order. He hears of chance, of luck; bring it home to him that the luck he loses is lost because of physical defects engendered in his heredity, in the hygienic defects of his daily habits; and put it hard upon him that in the failure of to-day he but sees the paralyzing influence of some infraction of the laws of health yesterday, and that in the conduct of his life to meet his daily wants —in health as in morals—he must accept the dictum, "As we sow so must we reap."

The moralist teaches that retribution follows the infraction of God's law. We can demonstrate it; he cannot, save through us. Go then to Surplus, present it your facts and show it how to turn its thought, its action, to the correction of those evils which in its system press so hard upon the physical condition of those outside itself. Show that with a large part of the brain and muscle of this land, especially of this city, such is its poverty it is almost impossible to secure to itself many of the commonest essentials of healthful life.

Show it, prove it, as you surely can, that from this condition springs that inefficiency, that mental and physical deterioration, that laziness, that viciousness which constitute the blight upon its social system. Lay plainly before it the inevitable reaction of such states of human existence, and in doing it, do it wisely, to the end that we may say, We have met to the fullest the duty which, in the process of social evolution, was laid upon our shoulders, for in answer to the mandate of that first law of nature, we have taught you the way to "self-preservation."

Thus, starting from the basis of those laws for which we stand, let us unfold to man not only his duty toward his neighbor, his duty toward his God, but his duty toward that temple of God which was created when he was born into this world.

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## CONSERVATISM IN GYNECOLOGY AND OBSTETRICS.[1]

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In the midst of the enthusiasm incident to an unprecedented progress made in our profession it is no easy matter to maintain an attitude which shall shield us from the imputation of being on the one hand too radical and on the other too conservative.

Recognizing this difficulty, it is with considerable hesitation that your reader has essayed to set down any suggestions which are intended to define between extreme and active interference and cowardly or dangerous inactivity.

Practitioners in obstetrics and gynecology seem to be divided into three classes: First, those who are ever active to interfere surgically, mechanically, apparently assuming that the *vis medicatrix naturæ* exists only in the minds of a few unenlightened individuals who are too slow to appreciate the necessity of bold surgical procedures, and who are not capable of grasping the problems of advancing science. Second, those who, having learned to be passive, depend alone, almost, upon natural changes to effect a cure, who are obstructive to every innovation, who only see virtue in the ways they first walked in—these constitute a large class who would have their profession at a stand-still from decade to decade.

There must be recognized, however, a third class, who calmly weigh the merits of each advanced theory or achievement, putting eagerly into practice that which seems to be

[1] Read at the meeting of the Medical Society of the County of New York, November 25, 1885.

good and condemning that which proves to be worthless; who are ready to recognize the true worth of any method of treatment which brings with it more light and more relief, but who resist temptation to follow blindly in the current of a new excitement simply because great numbers are swayed by conspicuous examples of great surgical achievements. These are they who must act as balance-wheels to the profession, who must limit the enthusiasm of the zealots whose ambitious desires lead them into a fever for "records" rather than to a firm determination to succeed by a careful, conscientious discrimination in favor of the confiding patients. I fear that too few of us, alas! belong to this third class.

On the one hand we see the records of countless exploits with the laparotomist's knife, and we are easily persuaded that, to be modern, we must be bold and dexterous. We must not fall behind in records, if we do in the aggregate number of our cases. A little reading, a little breathing of the laparotomist's atmosphere, whether it be in the operating-room or in the halls of scientific societies, and we are converts to the new faith and boldly enter in. A few short months roll on and we are ready with our "year's record in laparotomy." With pride we point to our scores of successful cases, and we feel convinced that we have at last struck the panacea for most of woman's ills. We become more and more impatient with treatment which entails slow and tedious measures, and too often we forget that cases have been cured by other means than the knife, and that our patients have a right to the benefit of the every doubt.

But another danger confronts us in our experience, which must by no means be overlooked. Trusting to the good fortune of many cases working out their own salvation, we allure ourselves into paths of inaction, of half-hearted belief, of trifling and superficial estimation of the duties before us, and in the falsely assumed guise of conservatism we fail to act when everything declares that delay is dangerous. Those of us who fall into such ways are as full of danger to our patients as are those who plunge recklessly into more active measures.

Such practitioners crowd our ranks with incompetency and stupidity, and see no good in the advances of a newer generation. It is not necessary to portray more minutely that pitiable company—they are to be found everywhere, in city as well as in country, and if they cannot be converted they are to be avoided.

But I feel that special attention and consideration should be given to the new generation of extremists who are filling our profession with their doctrines of radical operative interference in the majority of severe cases which come under the eye of the gynecologist.

When Mr. Tait had his first followers in this country it was at once suggested that this new path of surgery would be, perhaps, crowded to a hurtful extent. One of the first, if not the first in this part of the world, to test the operation known as Tait's, while showing his specimens of extirpated tubes, remarked: "I am not yet prepared to give the operation the broad application given to it by Mr. Tait, but that it has a future I feel assured."

Possessed of rare skill and unsurpassed courage, that distinguished operator has, I believe, still the conviction that a too general application is being made of a radical operation which should only be called for when all other treatment is known to be of no avail. But the mass of the younger gynecologists—impetuous, ambitious, "one-ideaed"—seem bent on bringing great numbers beneath the laparotomist's knife, without anything more than a rudimentary experience, at most, in the use of treatment which does not necessarily involve a mutilating operation.

Men whose opportunities, on account of age, location, or other environment, have been necessarily limited so far as practical experience in medicine is concerned, are willing to believe themselves capable of judging fairly of the conditions demanding an operation which not only exposes life to great peril but, at best, mutilates and deprives woman of an essential part of her organism.

The best surgery, whether it be abdominal or general, is more likely to be done by one whose mature judgment has calmly weighed *all* the evidence in a given case than by one whose predilections stand in the place of knowledge and experience, and impel him to fit the case to his treatment, instead of adapting his treatment to the requirements of his case.

It would appear as though there are various influences which lead so many, in this day, to drift into the fascinations of radical operations, some of which I have already hinted at. Two special influences of different moral tone certainly play an important part in the determination even of the more skilled and experienced operators.

First, the influence upon the mind of *seeing* pathological conditions of the internal organs. Specimens of "cystic ovaries," of enlarged tubes, etc., appeal to the senses in such a vivid manner that we are easily—too easily, I fear—convinced that nothing but extirpation of such tissues can ever effect a cure. And right here we doubtless make serious error. Because we can extirpate an ovary with more or less macroscopical change apparent, or a tube with fluid in it, it is not necessarily true that such appearances, even though they be pathological (which is not always the fact), are evidences of hopeless structural change, and hence demand their extirpation.

This point I wish to insist upon sufficiently to make it emphatic, as I am well convinced that the frequent handling of and seeing these organs in the conditions described has much, far too much, to do with the decisions of surgeons in these matters. Imagine, if you please, the appearance of an inflamed pulmonic lobe—or other organ removed and presented as a "specimen" at our surgical societies. If the same logic were used in reference to these other organs as we find proposed in connection with the disease of the tubes and ovaries we should have to consider it necessary for a *cure* to perform a surgical operation for their removal. Moreover, ovaries that are "cystic" or "slightly cystic" are frequently condemned because they have unfortunately been caught in the act of ovulation, a *physiological* process be it observed. Who ever saw a properly developed ovary without cysts or vesicles in it? What has become of the Graafian vesicle? By what new route is it discovered that nature extrudes an ovule? Yet, if one will take the pains to look over vast numbers of histories, given in the operator's own words, he will observe that the ovary removed was "slightly cystic" and hence had to perish.

It is only a fraction of a century past since tonsils were, almost without consideration, condemned to instant extirpation. Yet after a while it occurred to some thinking men that it was probably carried too far, and then the operation of tonsillotomy took its proper place in surgical practice.

The testicle and its essential adnexa are not infrequently the seat of violent organic changes, and I doubt not, if we could muster up courage enough to procure such an organ by extirpation for a pathological specimen at our scientific assemblies, we might convince many that such a frightful condition of things demanded nothing less than their removal for a cure. Such a specimen, with its quadrupled size, its muco-purulent infiltration, its enlarged tubes with blood or pus, would, we must grant, create as vivid a picture to the average mind as do those formidable cystic ovaries with catarrhal, serum, or pus-containing tubes of the feebler sex. Would the man be ridiculed or accounted behind the march of his peers who should venture the suggestion that that testis and its vessels would regain its integrity if treated conservatively, if allowed to stay in the body subject to nature's restorative forces?

The other special influence which damages the operator and his patients is the rage for "statistics." When a surgeon once gets the "record" fever his brain is excited by something less than science and much less than wisdom. Take for example a given case. An operator is rapidly

swelling his list of "successful cases of laparotomy"—his first fifty or his first hundred may be almost but not quite complete. A case of violent dysmenorrhœa, "ovarian neuralgia," or other neurosis presents itself. Think you he—or, indeed, the expert of the gentler sex—will risk the uncertainties and tediousness of general or conservative local treatment? Not for a week! The historical verdict reads: "An operation was immediately proposed and consented to. Operation performed May, 188–. Right tube catarrhal, both ovaries slightly cystic. Removed. Temperature never rose above 99° F. Recovery uninterrupted." Behold! the fifty, the hundred cases are now on record, and "a year's record in laparotomy" is brilliantly completed!

Are we drawing the picture too coarsely—are we weakening our argument by erratic hyperbole or by exaggeration? We ask you to read in the public medicine journals for yourself and see if such records may not be found.

This latter element I consider a most dangerous one to enter into the judgment of a surgeon's duty. It is to expect too much of human nature to suppose that we will not be biassed in our judgment by a desire to enlarge our list of brilliant deeds when numbers of operations become an incentive to emulation.

We have had so many reports, both verbal and in print, of these cases of late that it is only necessary to refer to one or two which represent fairly the work which this paper is in part intended to criticise. Within the past year we have been regaled by the report of one hundred and forty-four successful cases of abdominal section in a small West Virginia town within less than two years. Unless the operator had already become a veritable celebrity throughout that section of the country it would need no comment further than to denounce a course which must have been radical to a dangerous degree to have enabled him to have found it necessary to mutilate so vast a proportion of his unfortunate patients. But for fear that injustice may be done, and that this operator may have so vast a field as to make the proportion of abdominal sections to his gynecological practice much less than it seems to be, let us take a sample or two from his published records and consider their merits.

Case XI.—"Mrs. M. D——, married ten years; aged thirty-nine. Aborted two years after marriage, and states she was never well after this accident. Menses always lasted eight or nine days, and were so profuse that she was compelled to remain in bed for a week at least, after their cessation, to recuperate from the resulting exhaustion. Operation November 7, 1887, assisted by Drs. Thomas and Zerkle. Found both tubes occluded and adherent. Ovaries cystic."

"Case XVI.—Mrs. F. W. C——, aged thirty-six. Mother of two children. Two years since birth of last child, from which time illness dates. Severe menstrual pain. Locomotion difficult. Functional disturbances of the nervous system very prominent. Bilateral laceration of the cervix uteri. Both ovaries tender to the touch. Diffused pain and soreness over lower portion of abdomen. Operated on cervix April 14th, and on May 8, 1888, removed both ovaries and tubes. Left ovary contained half ounce of serum. Right ovary filled with blood and serum. Patient made rapid recovery."

"Case XIX.—Mrs. R. A. U——, aged twenty. Married nine months. Always suffered from more or less dysmenorrhœa and leucorrhœa. Constant uneasiness over the ovarian regions. Operation July 3, 1888, assisted by Dr. Thomas. Ovaries cystic and considerably enlarged. Tubes in a catarrhal condition."

"Case XX.—Mrs. M. A. L——, aged thirty-two. Always suffered more or less from dysmenorrhœa. Mother of two children. Dates her illness from an abortion two years ago. Pain of a 'dragging' character, nearly constant, over both ovaries. Uterus found to be immovably fixed in a retroverted position. Tubes enlarged and ovaries prolapsed. Operation July 3, 1888. Ovaries and tubes removed. Ovaries cystic and tubes distended with serum and slightly adherent."

"Case XXII.—Mrs. Julia M——, aged thirty; mother of three children. Suffers from severe pains in both iliac regions. Nutrition badly impaired. Uterus displaced backward and fixed. Operation July 7, 1888. Both ovaries cystic and tubes distended by serum."

"Case XXIII.—Mrs. C. E. W——, aged twenty-seven; mother of two children. Has been an invalid for two years. Great suffering from dysmenorrhœa. Found both ovaries enlarged and very sensitive to touch. Operation July 10, 1888."

"Case XXV.—Miss A. O——, aged twenty-three. Has been an invalid for several years. Severe dysmenorrhœa, and intense pain in back. Operation September 4, 1888. Both ovaries enlarged and cystic."

"Case XXVII.—Miss D. R. T——, aged twenty-three. Menstrual period lasts ten days. Has never suffered any pain, but the flow is profuse and the resulting exhaustion so great that she is obliged to remain in bed the greater part of every month. Operation September 6, 1888. Found both ovaries greatly enlarged, very soft and spongy."

These cases are sufficient to show that in one portion of our country, at least, abdominal section is resorted to with reckless frequency. What man is able to say that one of these cases would have resisted all other faithful treatment? If such cases require laparotomy, then at least four-fifths of our female patients are fit subjects for castration. But these instances only stand to represent the work of great numbers of operators, in city and country, who are endeavoring, apparently, to simplify their rules of practice by condemning the majority of troublesome cases to abdominal section.

Our scientific discussions are rendered tediously monotonous, if not ridiculous, by the rapid drift of debate into the delectable field of laparotomy and "tube" lore. But some man will say, all of this, or most of this moralizing is superfluous, for we believe all of this, or most of it, but it is a picture drawn from an extreme view of the practice of gynecologists. It does not fairly represent the facts as they concern the truly skilful man, but applies rather to those untempered imitators of men who are more fully qualified to judge when these operations to which we have referred should be performed. To this let us say, this paper ventures to remind the teachers in this department that to their one-sided radical way of dealing with a great proportion of pelvic diseases we may point as the guiding principle in the minds of the lesser lights of the profession. We will go further and aver that the teachers—the leaders themselves—so frequently assert their extreme dogmas that at length they believe thoroughly in them themselves, and put into practice theories which were in their minds once only theories, and doubtful ones at that.

In obstetrics, perhaps to a less degree, there exists the same spirit of non-conservatism. Many obstetricians seem more absorbed in the questions of the relative value of a Porro operation and a Cæsarean section than they do in the consideration of the best means to avoid the necessity for any such procedure.

It is safe to say that there are hundreds of women marred and many killed every year because of the lack of a reasonable amount of skill being shown to detect a malposition of the fœtal head. Thousands of dangerous forceps operations are done by men incapable of making approximate diagnoses.

Version is only resorted to after tissues have been lacerated and bruised by long forceps in the hands of several equally dangerous men. And then, if perchance it is discovered that a uterus is ruptured and two lives have been lost, version is ignorantly accused of having done the frightful deed. I have known at least two cases of craniotomy and one of Cæsarean section in multiparæ who had previously borne large children normally, and these formidable operations were done because a true conservative treatment had been ignored.

In our obstetric societies in this day how much discussion do we hear of the numerous forms of dystocia outside of those cases in which abdominal section may play a part? Are we not drifting away from good doctrines in our enthusiasm for surgical feats of uncommon skill?

Having thus in a somewhat cursory manner found fault with a strong indication of recklessness in our ranks, let us simply assert that a vast number of cases of pelvic disease would be conducted to a safe termination in cure, by a patient application of reasonable conservative treatment, which are being given up to the laparotomist's knife.

Enlarged tubes, if not enlarged ovaries, *will* resolve and empty themselves of serum, blood, and even pus. "Cystic ovaries" which contain cysts only of the Graafian follicular variety *will* continue to perform a healthy function if allowed to live.

Pelvic inflammations will disappear in a large number of cases without the knife applied through the peritoneum. Tender ovaries, adherent uteri, will regain their physiological functions in many instances, and childbearing will be possible in cases that are all too commonly condemned to mutilation. These and many other most important facts should be so firmly impressed upon our minds that we may be able not only to give our patients a fair opportunity to escape a dreadful mutilation, but also to discuss with candor the value of other modes of treatment which may suggest themselves.

To the inexperienced it is our bounden duty to sound a note of warning—to first learn to diagnose and treat the conditions of disease in the pelvis of woman in a thorough, scientific, and patient manner before he presumes to pass judgment on organs with which he has so slight acquaintance.

To show by a single example the baneful force of a one-sided view of surgical matters of vital importance, we have only to refer to a recent meeting of eminent obstetricians and gynecologists from various nations assembled in this hall. The subject of extra-uterine pregnancy was under discussion, and Professor Martin, of Berlin, whose opinions are justly held in high estimation, asserted that it was his universal practice to perform laparotomy in every case; and notwithstanding the unparalleled records of the American method of treatment by electricity, not a voice of dissent was raised, I believe, in all that assembly. Certainly no adequate rebuke to such a wholesale dismissal of our claims for electricity was offered. And who can tell the far-reaching influence of such teaching? Shortly after, a "primary operation" case of extra-uterine pregnancy was presented by one of our number, and with loud denunciations he spurned as triflers and ignoramuses those who presumed to claim that electricity ought to have even a trial on its merits.

A few cases may be of service in illustrating the changes that may occur in some of the conditions we have touched upon, and they have been selected from a long list extending over a period of ten years.

Case I. *Cystic Ovary.*—Mrs. V——, aged twenty-six, nullipara, had been married two years, never pregnant. Suffered several years with severe dysmenorrhœa, sacralgia, headaches, etc., with fixed pains occasionally in left groin. Was treated by a female gynecologist for several months; and at a consultation with an eminent practitioner in that department it was decided that a displaced, enlarged, and tender left ovary should be removed by laparotomy. There was also a retroflexed uterus without adhesions. The patient refused to submit to operation and was subsequently examined by me. I found the conditions above described, and put her through a course of tamponing with boric glycerine for six months, the applications being made once or twice a week in the intermenstrual periods. Afterward a good-sized Albert Smith pessary was tolerated and the patient became pregnant, went to full term, and was delivered of a healthy child. Three months afterward I examined her, and found the ovary as large as ever, not so tender, but in the same low posterior position. She has never had any symptoms of discomfort, even, since.

Case II. *Pyosalpinx.*—Mrs. R——, aged twenty-five, 1-para, no miscarriage. Had excellent health until after birth of her child, which was seven months old. She had slow convalescence from a tedious labor, being unable to get about without great pain for four or five weeks after confinement. She is said to have had continuous fever during that time. When she did get up she had great pain in the back, severe dragging pains in the groins, and a purulent vaginal discharge.

When she came to me the uterus was still enlarged and sharply retroflexed, and exceedingly tender. On each side of the uterus could be felt the outlines, distinctly marked, of sausage-shaped fluctuating tumors which were very tender. These were continuous with bands of adhesion binding the uterus in its vicious position in the hollow of the sacrum.

Notifying the patient that she should hold herself in readiness to submit to a serious operation if symptoms increased, I very cautiously instituted a very mild course of galvanism, followed by the glycerine and iodine tampons. From the cervix there flowed a stream of pus. After six weeks of patient work the tubes emptied themselves, the adhesions became less tender, and allowed the uterus to be partly reposited. At this time, seven months after the suspension of treatment, the patient reports herself as "perfectly well," and her appearance justifies the statement.

Case III. *Pyosalpinx.*—Mrs. H. S——, aged twenty-eight, 2-para, no miscarriage. Last child five months old. Delivered with instruments. Perinæum badly lacerated. Had bad getting up after both confinements, the last leaving her extremely weak and unable to walk without agony. Did not nurse the child. She was sent to me from a distant city and I placed her in my private hospital for treatment. She was just finishing a painless or almost painless menstruation when she was seized with rigors, rapid elevation of temperature—104.5° F.—and great pain in the right groin and hypogastric region.

Examination showed a perinæum torn to the rectal sphincter and with jagged, suppurating edges, the vaginal wounds being deep and pouring out pus. The cervix was torn slightly, but a stream of greenish-brown pus poured from the cavity of the uterus, which was fixed by adhesions in a retroflexed position. The whole vaginal vault was exquisitely sensitive, and the region of the right broad ligament, and posteriorly to the right of the uterus, was a large distinct mass which was exceedingly painful. For some days the patient's life was despaired of, so severely prostrated was she. I was urged by eminent counsel to operate later on for the removal of the tubes and ovaries, but owing to the patient's dread and my own doubts as to the absolute necessity of the operation the case was simply treated with iodine, hot douching later, and general tonic regimen. Within two months—a normal menstrual period having passed without disaster, and the pelvic roof showing improvement—she was etherized and the perinæum repaired. Her recovery was good, and at my request she has presented herself for examination within a few days past.

In reply to my questions she states that her health is "better than it has been in five years," that she has positively no pain nor tenderness. On examining the pelvic organs I find the uterus partly retroflexed and partly fixed, the tubal swelling and other evidences of exudation are entirely obliterated, except a suspicion of a tense cord in the position of the pyosalpinx diagnosticated six months ago.

Case IV. *Ruptured Uterus.*—This was a case of rupture of the uterus, occurring during the second stage of normal labor, and has been reported in full in a previous paper. I only allude to it here to show that the treatment was rationally conservative, and saved the patient, whereas laparotomy is recommended in such cases without question. This woman had a rupture of the uterus at its right

anterior upper segment, which allowed the body, legs, and one arm of the child to escape from the cavity of the uterus. All of the symptoms of the catastrophe were present. I introduced a clean hand, and drew the escaping child into the uterine cavity again, and turning it, delivered rapidly. The placenta and membranes being carefully removed, I examined the fœtal envelopes and found *but one opening*—that through which the child was delivered—namely, the vaginal portion. At once recognizing the evidence that the membranes above had formed a hernial sac ahead of the child as it had been thrust through the rent in the uterine muscle, I felt sure the peritoneum had no amniotic nor other fœtal substances poured into it, and determined to give the case to nature to absorb the clean blood which had escaped into the broad ligament and elsewhere, to the amount of a pint. The patient recovered entirely, and I delivered her by version within two years after the above related accident.

Case V. *Pelvic Peritonitis; Ovaritis; Pyosalpinx* (?); *Subsequent Pregnancy.*—This case may be related in a few words which will carry a forcible lesson. Mrs. L——, aged twenty-four, nullipara; good history. Shortly after marriage she was taken sick with what she called "inflammation of the bowels," and after weeks of suffering in bed she so far recovered as to apply for relief of her pelvic pains and soreness at the office of a distinguished gynecologist of this city. He found her in a bad state, suffering from a recent attack of pelvic peritonitis, with an enlarged and exquisitely sensitive right Fallopian tube; and for some reason—I believe because she refused to permit laparotomy—he referred the case to me. On examining her I found the pelvis filled with exudation, the uterus fixed firmly in a retroflexed position, and the right ovary and tube enlarged and very tender. I could not detect any fluctuation. This case had been repeatedly inflamed until everything seemed massed together in one great cicatrix.

Guided by an experience with such cases, I put her through a most thorough course of douching with hot salt water, iodine and glycerine tampons, etc. In one year she became pregnant, and she was delivered, at term, by my assistant, Dr. Tracy, after an unusually easy labor. A good convalescence followed, and to-day the pelvis is free from evidences of exudate.

These, with a variety of other cases of every degree of severity, which I might weary you with, will serve to point the moral that there is something else to be done for the salvation of our cases than the grave operations which open the abdominal cavity. But I would feel that this paper had sadly miscarried should it be interpreted to teach that active interference is to be put aside in all cases. Let no man impute to the reader any uncertain sound, any cowardly inaction. There is a time to act, and then to act promptly and thoroughly. There is a time to stand by and guard the patient against mischievous meddling, to wait patiently for results which will come to the rescue; and in so doing it is as much to our credit as is the most intricate surgical achievement. A general surgeon may display uncommon skill in the use of the amputating-knife, but he is a better surgeon who knows when to withold the knife and save the mangled limb.

He who is gifted with a skill to invade the great cavity of the body, with dexterous fingers to detach and remove offending tissues, is to be looked upon with reverence if he abuse not his art. But on him rests a fearful responsibility which he must ever bear—a responsibility to his patients, and to those, in less degree perhaps, of every practitioner who sees his skill or who reads of it in the journals of our profession. Let him see to it, then, that no sordid motive urge him to advocate or put into practice an operation which is not demanded by the best interests of his patient. And on the other hand, let no man stand, through bigotry or ignorance, in the way of prompt and efficient measures, no matter what they be, so long as they be right and just, and in demand. Conservatism is not cowardice, is not clumsy inaction, any more than it is reckless impetuosity.

Would it not be better for our post-graduate schools, our scientific societies, and our representative gynecologists, to lay greater stress on the skilled use of the instruments demanded in minor surgical gynecology; on the proper observation of the general rules of treatment, of antiseptic details, and of careful diagnosis, than to fill the minds of the growing brethren in the profession with ideas which tend to a strong bias in favor of a dangerous and often harmful operation.

How many men are expert in the details of a thorough pelvic examination? How many are there who are strictly guarded as regards septic infection of their patients? If it can be shown that the vast majority are well-trained, conscientious workers in these commonplace details, then will we admit that they are ready to receive their first lessons in abdominal surgery. But the experience of men who are brought in contact with these special cases frequently goes to show that there are men who will rise up in our societies and argue for the inevitable demands of laparotomy, etc., whose awkwardness in the use of the Sims speculum even would be apparent to all of us.

As a sign of the times I would like to relate the experience of a gynecologist to one of our hospitals within the past year. He had succeeded, in the rotation of service, a gentleman of growing reputation as a laparotomist, and found the service pretty well given up to cases of abdominal section. His attempt to awaken the interest of the House Staff in the minor operations, perineorrhaphy, trachelorrhaphy, in cystic inflammations and the like, was a signal failure, the staff to a man being utterly indifferent to anything less than an extirpated ovary or tube. And yet there was not a man on that staff possessed of the requisite amount of skill to introduce, without pain to the patient, an ordinary speculum! Further comment is unnecessary.

The rational use of antiseptics in all departments of surgery have brought improvements which mark an era in our art; but this extension of our work has also brought its evils.

Depending upon the protection given by clean surgery we are emboldened to invade tissues with too much recklessness, and without sufficient warrant or deliberation. Furthermore, it is well to bear in mind that a cure, or even the improvement of a symptom, does not always follow what is often designated as a successful operation. A patient may, indeed, escape the immediate dangers of the operation, but very often—more often than operators are willing to make note of—she is left in a state which is worse than the first.

If the cases of abdominal section were fairly reported upon one or two years after the successful operation we might be less sanguine in following the example of the great surgeon of Birmingham.

Ventral herniæ, extensive and painful peritoneal adhesions, fistulæ, and a suspicious increase of melancholia, these are some of the fruits of laparotomies which have been previously reported among the hundreds of successful cases. But is there no field for this important surgical exploit? Is laparotomy only the hobby of enthusiasts? Certainly there is a field for this very successful branch of surgery, but we wish it distinctly to be understood that its field of real usefulness is *limited*, and within its proper limitation it is the only proper course to pursue.

To push its application outside that limitation is to abuse it, and to distort the clear judgment necessary for a just consideration for the patient's welfare.

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Dr. Prince A. Morrow, of this city, is engaged in collecting statistics of all cases of leprosy in this city, and asks medical men to send him reports of any case or cases under their observation.

## BASILAR KYPHOSIS: ITS RELATIONS TO CERTAIN CEREBRAL DEFORMITIES.

By SARAH E. POST, M.D.,
NEW YORK.

By basilar kyphosis is meant a deformity of the skull homologous with kyphosis in the spine.

Spinal kyphosis consists in an altered position of the vertebræ, producing a dorsad angle in the place of a curve. The angle of spinal kyphosis is formed by the spinous process of the vertebra most prominent in its outline. If, however, we should strip the offending vertebræ of all their processes, if we should even remove the neural arches altogether, we would still find the angle represented by the bodies of the vertebræ; we would, in fact, have it borne in upon our minds that the angle was primarily induced by malposition of these bodies, being merely accentuated by the neural arch and the process carried upon it.

Such a resolution of the grosser appearances of kyphosis is provided by nature in the configuration of the skull. Here we have three primitive vertebræ (Virchow), the bodies of which are represented by the base of the skull or os tribasilaire, composed of the basilar process of the occipital bone, the post-sphenoid, and the pre-sphenoid bones, the neural arches being represented by the cranial vault. Here there is no prominent spinous process to attract attention to the deformity. The laminæ, too, fail to follow the displacement and to indicate its presence in any as yet significant way. We say, as yet, because it is probable that upon further study the vault of the cranium will be found highly significant in these cases.

In basilar kyphosis, then, we have a dorsad or posterior angle, which is to be found in the bodies of the constituent vertebræ, or the base of the skull. Ossification between the two sphenoid bones is well advanced at birth, so that the two already form one compact mass known as the body of the sphenoid. Ossification between the occipital and sphenoid bones is, on the contrary, not completed normally until the eighteenth or twentieth year. Following the principle that the part last developed is that most apt to be malformed, the angle of basilar kyphosis will be found primarily to include the occipito-sphenoidal articulation, the post-sphenoid bone representing the malformed vertebra, the clavicular process being its most prominent point.

In addition to the essential angle of basilar kyphosis, we find two contiguous angles which are important in assisting to describe the topography of the inner surface of the skull. Cephalad, or at its upper border, we find the angle which the body of the sphenoid makes with the deepest level of the anterior cerebral fossa; and caudad, or at its lower border, the angle which the basilar process makes with the level of the occipital foramen. The latter angle is determined by the articulation between the primitive pedicles and laminæ of the occipital bone, the line of which passes through the occipital condyles and the condyloid foramina. This angle is normally diminished in the fœtal state, giving rise to the steeply inclined basis cranii and the globular skull of the fœtus, in which absence of depth in the anterior and posterior cerebral fossæ are apparently more characteristic than occipito-sphenoidal kyphosis, or infringement upon its median vertical diameter.

Basilar kyphosis is not simply a persistent fœtal trait, it is a distinctly abnormal or pathological condition.

The angle of basilar kyphosis is an exaggeration of the normal angle made by the basilar process of the occipital bone with the body of the sphenoid, its projection being into the cavity of the skull. It is apparent that basilar kyphosis markedly diminishes the intra-cranial capacity, it is apparent that the angle of basilar kyphosis encroaches upon the cavity of the skull, first by shortening its cephalo-caudad or antero-posterior diameter, and second, by direct infringement upon its dorso-ventrad or vertical diameter. The distance between the base of the skull and its roof is diminished in basilar kyphosis beyond the proportion necessitated by its contracted antero-posterior limits. The importance of the deformity in its effects upon the brain may be readily appreciated.

Th. Ackermann [1] has found basilar kyphosis in a number of cases of encephalocele, the result being fairly uniform whether there were anterior or posterior cranial defect. Ackermann considers the kyphosis a result of diminished intra-cranial pressure consequent upon the defect.

Now, this is an interesting point. From the earliest historic times encephalocele has been well recognized, yet up to the present day the question of priority continues to be propounded. Did the cranial defect exist first, and did the brain take its erratic growth as a result of the loss of its enveloping wall; or did the hyperplasia or the hydrocephalus exist first, compelling non-union or loss of substance in the yielding cranial bones? If, as Ackermann surmises, hydrocephalic processes leave their impression upon the base of the skull, we may interrogate this part in the investigation of a number of doubtful conditions. If basilar kyphosis is inconsistent with increased intra-cranial pressure, the loss of cranial substance was not produced by pressure in these cases of encephalocele, but was what, for want of a more intelligent term, we designate as a primitive defect. The experiments of Dareste, Lebedev's study of the chick's embryo, and William Koch's exhaustive study of spina bifida, also sustain the opinion that bony defects at least do not depend necessarily upon hydrocephaloid conditions. Koch, quoting Ranke's theory, considers the bony defect in both myelocele and encephalocele alike due to failure of separation between the cutaneous and medullary layers after the formation of the medullary canal. On account of this failure a septum continues to unite the neural tube with the skin, and effectually prevents union between the osseous and muscular layers. These finally, by increasing in thickness on all sides

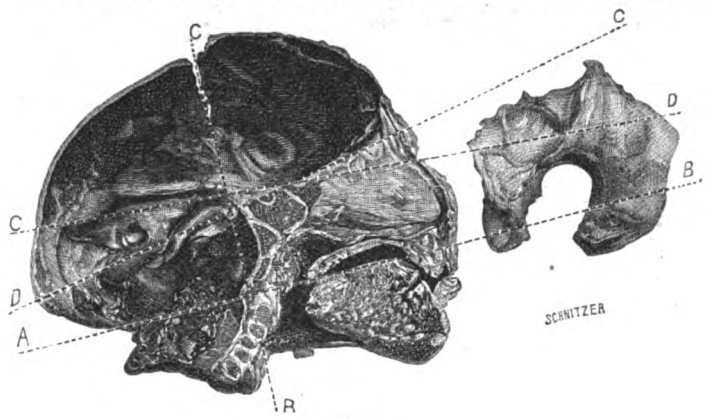



FIG. 1.

[1] Th. Ackermann: Die Schädeldifformität bei der Encephalocele Congenita. Halle, 1882. Ackermann's method of measuring basilar kyphosis is to make first a median vertical section of the skull, and upon this section to construct lines, the first to pass antero-posteriorly through the centre of the section of the basilar process, and the second antero-posteriorly through the centre of the compound body of the sphenoid, the inequalities of the surfaces being disregarded in the measurements. The resulting angle is termed the occipito-sphenoidal angle, or the angle of the saddle, found to consist normally of one hundred and fifty-seven degrees. The angle may be easily constructed in a normal skull, but in a kyphotic skull instruments of precision would be required, and even then the surface inequalities with which alone the brain has to do would not be adequately represented. We have therefore preferred a surface measurement such as may be made by anyone without trouble.

Of the four lines used to represent the base of the skull in this paper, all occupy the median vertical plane: *AB* passes through the level of the occipital foramen; *BC*, from the inner ventrad margin of the occipital foramen to the apex of the clavicular process or most prominent point of the post-sphenoid bone; *CD*, from the apex of the clavicular process to the apex of the olivary process or most prominent point of the præsphenoid bone; and *DE*, from the apex of the olivary process to the level of the cribriform plate, this being approximately a measure of the depth of the anterior fossa. The lines *BC* and *CD* represent the occipito-sphenoidal angle or the angle of basilar kyphosis.

of the septum, exert traction upon the neural organ and elevate it from its bed in the canal. Increase in weight, gravity, and subsequent meningeal effusion, complete the work thus begun. It is well known that encephalocele and myelocele are apt to be umbilicated or furrowed.

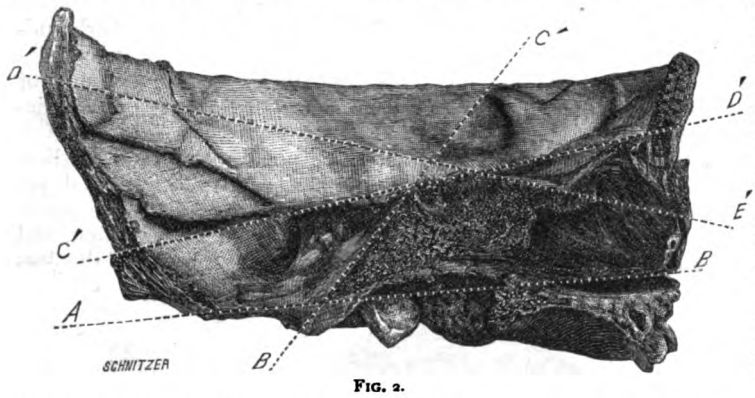



FIG. 2.

The place of umbilication or furrowing is supposed to locate the primitive defect. Koch considers the shortening of the spinal column, the absence of certain vertebræ, and the dwarfing of others in pronounced cases of rachischisis, also the existence of rachischisis without neural involvement, as all opposed to the theory of hydrocephaloid origin. Koch considers that encephalocele may become hydrencephalocele by loosening of the band of connection between the neural tube and the skin, and the partial sinking back of the hernia into the canal.

We are fortunately able to present in this connection a typical skull illustrating Ackermann's cases. The drawing shown in Fig. 1 has been made from a photogragh of this skull, and is in all respects quite accurate. The case was one of hydrencephalocele, reported by Dr. McNutt before the Clinical Society of the Postgraduate Medical School, April 16, 1887.[1] The patient was a male child, born at term; the delivery was normal. The parents were young, healthy people, but emigrants, and the mother had, during her pregnancy, suffered many hardships, including deprivation of proper food. The tumor was present at birth. It was located in the occipital region, was translucent, and toward the base covered with hair. The bony defect occupied the median line of the occipital bone, the bones of the skull were soft, the fontanelles

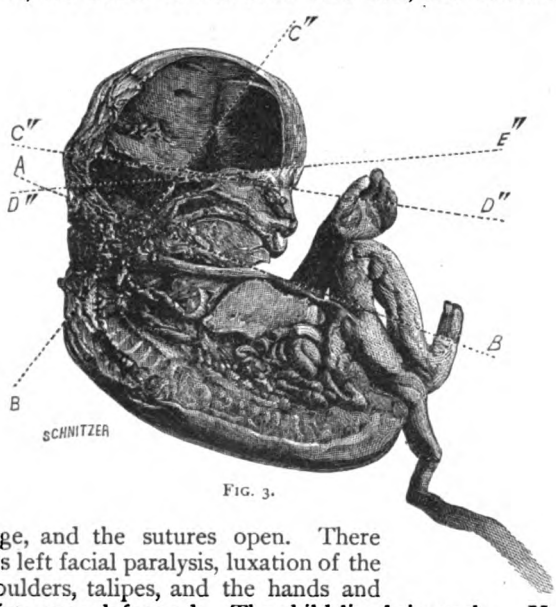



FIG. 3.

large, and the sutures open. There was left facial paralysis, luxation of the shoulders, talipes, and the hands and wrists were deformed. The child lived six weeks. Upon autopsy the sack of the tumor was found to consist of the dilated fourth ventricle, the cerebellum was absent, the occipital convolutions interlocked, and the pedicle of the tumor contained degenerated cerebral tissue.

[1] The Postgraduate, January, 1888, p. 55.

Sutton ascribes the tumor of occipital meningocele to closure of the canals connecting the lateral recesses of the fourth ventricle with the subarachnoid space. The tumor is the dilated fourth ventricle. It is associated with a rudimentary or absent cerebellum, if developed at an early stage of intra-uterine life. The theory of Sutton would produce hydrencephalocele by distention of the central canal and the mechanical withdrawal of cerebral tissue, the agent being the traction exerted by the growing tumor upon the adjacent cerebral mass. This is the old theory of hydrocephalus, pressure and defect, opposed to which we have the theories of Ackermann and Koch, to which we have already referred. The evidence afforded by the skull in Dr. McNutt's case is before you.

Fig. 2 is a drawing made from a photograph of a normal skull, taken from a child of one year. It is presented simply for purposes of comparison.

Fig. 3 is a drawing made from the photograph of a skull of a fœtus of about four months. It is also given for comparison only. The angles made by the inner surface of the base of the skull in these three cases are compared in Fig. 4. Bearing in mind that the lines used to represent this schematic diagram are of precisely the same length in the three cases, the infringement of the cavity in both the fœtal and kyphotic skull will be found

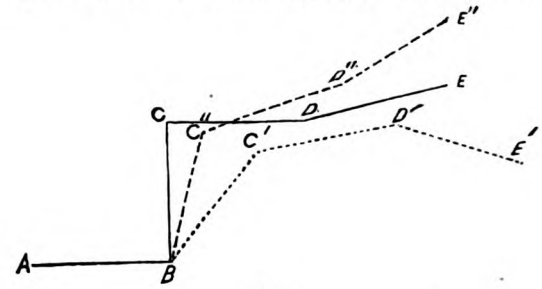



FIG. 4

there graphically represented. It will be readily seen that the occipito-sphenoidal angle is very nearly the same in the fœtal and in the post-natal normal skull; but, that the capacity of the fœtal skull is proportionately diminished by the tilting of the whole base upward on the axis furnished by the articulation in the lateral masses of the occipital bone; and still further encroached upon by the upward inclination of the anterior cerebral fossa. The result of these two forces is to shorten the base and diminish the capacity of the skull. In the kyphotic skull this result is exaggerated by sharpening of the occipito-sphenoidal angle. The base of the skull is here comparatively still shorter and the cavity more contracted than in the fœtal condition. In the kyphotic skull we have persistence of the fœtal peculiarities, and, added to these, occipito-sphenoidal kyphosis.

Basilar kyphosis has been associated in cretins with premature synostosis (Virchow) of the base of the skull, and it has been in some treatises ascribed to persistence of a normal fœtal condition made permanent by this means. So far as isolated examples can carry weight, these specimens would appear to negative such a proposition. In the first place the fœtal skull here represented does not show basilar kyphosis, and in the second place the kyphotic skull does not present synostosis. We have noted that the bones were soft, the foramina large, and the sutures open. Even the intersphenoidal articulation is still cartilaginous. The same was true of all of Ackermann's cases.

A second point of interest connected with basilar kyphosis has to do with the symmetric bilateral atrophy of the brain found in cases of infantile spastic biplegia. By post-mortem examination Richter[1] has found basilar

[1] Richter: Virchow's Archives, No. 106, p. 390.

kyphosis in a number of cases of this kind. His observations were made by dividing the head vertically in the median line while the brain was *in situ*, and he graphically describes his finding. He viewed the brain curved around and carried up by the kyphotic prominence. As a result he saw collision of the falx with the corpus callosum in the median line, producing atrophy of the callosum, the degeneration proceeding centrifugally to the cortex upon both sides.

This explanation must be eminently satisfactory to anyone who has puzzled over the various theories offered for these symmetric cases of corticalatrophy. It is not, however, quite unobjectionable. The corpus callosum does not in the adult undergo secondary degeneration. The cortex atrophied by embolus will be represented by secondary degeneration in the tracts to the periphery, but no line of secondary degeneration crosses from it to the opposite side of the brain, as in infantile biplegia, where, as in Dr. McNutt's case,[1] an atrophied band in the callosum connects the atrophied convolutions.

Again, we know that the corpus callosum is not essential to the building of convolutions.[2] An Englishman has recently collected thirty-three cases of absent corpus callosum in otherwise fairly formed brains. His own case lived to manhood and was reasonably intelligent, attending to his business, and only considered a little stubborn and queer by his friends. Why cutting the callosum during fœtal life should inhibit the growth of convolutions is yet undetermined.

A further point of interest is found in a case of biplegia in which Richter demonstrated basilar kyphosis, but in which the paralytic seizure dated from the sixth year. Of sixteen cases of biplegia reported by Osler, ten only were congenital. Must basilar kyphosis be fœtal in origin, or may it, like spinal kyphosis, have its inception later in life? Richter's explanation of this post-natal case is that the deformity had previously existed, but had not interfered with the brain until its later development.

To enumerate:

1. The essential feature of basilar kyphosis is sharpening of the occipito-sphenoidal angle. It is associated with a steeply inclined basilar process and superficiality of the anterior cerebral fossæ—characteristic fœtal conditions.

2. The direct effect of basilar kyphosis is to shorten the base and to diminish all of the diameters of the skull.

3. Basilar kyphosis is not necessarily associated with premature synostosis of the base of the skull.

4. Basilar kyphosis has been found in cases of congenital cerebral hernia. In this connection it is supposed to exclude intra-cranial pressure as the cause of the cranial defect.

5. Basilar kyphosis has been associated with the symmetric cortical atrophy of infantile biplegia. It is supposed to cause this condition by bringing the corpus callosum into collision with the falx cerebri and inducing inhibition or atrophy proceeding centrifugally to the cortex upon both sides.

The mother's deprivation of food during her pregnancy, together with the delayed ossification, may not inappropriately suggest intra-uterine rachitis as a cause of this deformity. In the case of biplegia to which reference has been made, the ordinary signs of rachitis were very evident. Rachitis as a basis for biplegia may not impossibly repay investigation.

In concluding, I beg to express my indebtedness to Dr. Sarah McNutt for the opportunity of studying her specimens, also for many other kindnesses which have greatly forwarded my work.

[1] McNutt: American Journal of the Medical Sciences, January, 1886.

[2] Brain, July, 1889, p. 171.

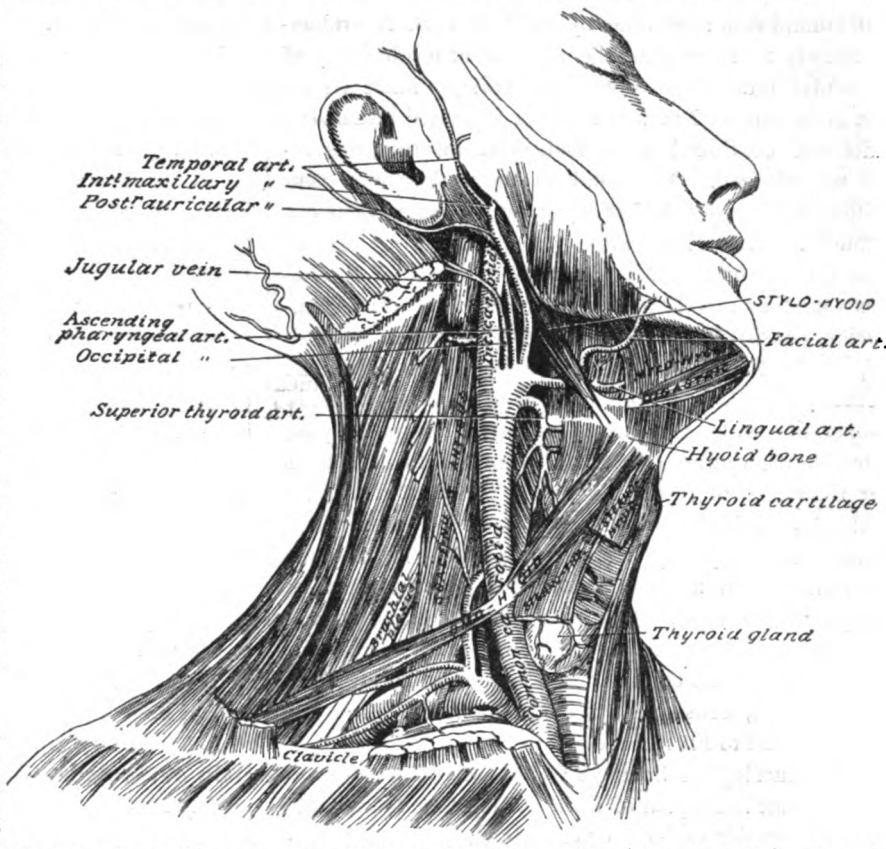
## AN ANOMALOUS RIGHT EXTERNAL CAROTID.

By J. HARTLEY ANDERSON, M.D.,

PITTSBURG, PA.

In a recent dissection I found at the bifurcation of the common carotid, which took place opposite the greater cornu of the hyoid bone, and immediately below the posterior belly of the digastric, an axis of five vessels, corresponding to the branches of the external carotid.

The first branch was the superior thyroid, which ran down to the thyroid cartilage, giving off its usual branches. The second branch corresponded to the lingual, which gave off the facial about a third of an inch from the axis. The third branch was the inferior maxillary, giving off the posterior auricular and the temporal, both of which were small. The fourth branch was the occipital. The fifth, the ascending pharyngeal, arising from the underneath part of the axis. The branches of all the arteries, except the cervical branches of the facial, were normal in position. The internal maxillary was small in size, as also was the occipital. In ligating on this artery the operator may expect to find all kinds of anomalies. The origin of the external carotid may usually be found opposite the superior border of the thyroid cartilage, but very often it is found as high up as the hyoid bone, and as low as the cricoid cartilage. Morgagni cites a case in which the origin was an inch and a half above the subclavian. There are on record two cases in which the origin was on the arch of the aorta. In one case this anomaly was on both sides, and on one side in the other. As I have nowhere seen a description of this axial arrangement, I thought it might be of some use to bring it to notice. Dr. Quain mentions an arrangement of the vessels in close proximity, on the external carotid, from which I infer that it was not axial.



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## EPILEPSY, CHOREA, AND THE EYE MUSCLES.

THE commission appointed by the New York Neurological Society to investigate the relation of insufficiency of the ocular muscles to chorea and epilepsy made its report in November last, and after an animated discussion, which was continued at the December meeting, this report was adopted. The details of the work of the commission will be published soon, and it will be a document of much interest. Meanwhile, we shall give our readers some account of this work from the records of the Society's sessions that have been furnished us. The Commission consisted of Drs. E. C. Seguin, William R. Birdsall, F. P. Foster, Charles L. Dana, M. A. Starr, D. Webster, and W. O. Moore. These gentlemen worked in co-operation with Dr. George T. Stevens for the purpose of testing the validity of the latter gentleman's statements that treatment of insufficiencies of the ocular muscles would cure a large percentage of cases of epilepsy and chorea. In a paper by Dr. Stevens, published a few years ago, it had been asserted that about fifty per cent. of epileptics were relieved of their attacks by the special form of treatment referred to. Dr. Stevens has since then obtained some confident and aggressive followers in this city, and, consequently, considerable attention has been attracted to his method.

The Neurological Society's Commission, according to the statement in its plan of work, having found a suitable case of idiopathic epilepsy or chronic chorea, had the patient examined separately by two of its neurological members and a full history taken. The patient was then sent to Dr. Stevens and examined by that gentleman. If acceptable, further eye examinations were made again by one of the ophthalmologists of the commission. Each patient, therefore, went through four separate examinations before treatment was begun. Records were then kept of operations performed and of the progress of the case.

Twenty-eight patients were thus examined and put under treatment, but for various reasons fourteen were withdrawn, or not counted. In some cases the patient could not follow up treatment; in others, no relief being obtained, they refused to attend; in others, some evidence of organic disease developed. Several attended less than the minimum limit of time adopted as a test of treatment, viz., four months. Fourteen cases, however, were treated continuously for over four months, and in some instances over two years. Nine of these cases were of epilepsy; five of chronic chorea. Three of the cases of epilepsy and three of the cases of chorea were improved. None were entirely and completely cured, although two of the cases of chorea seem to have become practically well. None of the cases of epilepsy were cured or even very strikingly improved, though as to this latter point there seems to be some difference of opinion.

The commission, in their conclusions, state that they cannot recommend a treatment of insufficiencies of the ocular muscles in cases of epilepsy and chorea as the sole therapeutic measure or as a curative measure. This conclusion does not deny to oculo-muscular treatment all value, but it is evident, from a perusal of the discussion, that the members do not attach very much importance to it. At the best, it seems that ocular irritation from muscular insufficiency may exaggerate or keep up a convulsive disorder; just as a tight prepuce or disordered stomach may do it.

The importance of peripheral irritation, however, as a cause of the severe neuroses, is no doubt vastly exaggerated; perhaps no more by oculists than by other specialists. There will continue to be a diversity of opinion as to the exact value of Stevens' oculo-muscular treatment. It will be impossible, however, for any candid person to read the commission's report and thereafter believe that this method is a specific for epilepsy, or that it is really a curative measure. In chronic chorea the results allow a wider divergence of opinion. But, although several cases were very greatly improved or even cured, this occurred only after a long time, and it might be attributed to the natural course of the disease.

Although the extravagance of Dr. Stevens' claims is abundantly shown by the commission's report, some words of justice are due him. It was certainly a courageous act on his part to undertake the somewhat thankless task of allowing his views to be put to so exacting a test, and it argues an honest conviction in the truth of his own views.

By his persistence and ingenuity in following up his special line of work attention has been drawn to a class of functional eye disturbances which had been very generally overlooked. The exact importance of these in the production of morbid symptoms and the pathogeny of disease time will determine definitely. It is already shown that their importance has been greatly overrated.

## VITAL AND MEDICAL STATISTICS.

THE lectures of Dr. Billings upon vital and medical statistics have proved to be of much more interest than their title promised, and they will doubtless serve a useful purpose in showing the proper methods of carrying out a statistical inquiry as well as the limitations of this method. The familiar observation to the effect that "one can prove anything by statistics is false," unless it is amended so as to say "by statistics ignorantly used."

Whatever may be the shortcomings of the statistical method it is the one which practically has to be largely used by the physician in order to draw conclusions as to the course of disease; and it is most desirable, therefore, that he should have an intelligent understanding of the tools which he has to employ.

Dr. Billings' lectures dealt not alone with statistical methods, but also with the application of them in many directions. He presents us, it must be confessed, a rather discouraging picture of the result of man's battle with disease. Although the expectation of life is greater, yet this is only true of the earlier ages. After a man reaches twenty his expectation of life is less than it was fifty years ago, for the reason that more persons of feeble constitution are now nursed to manhood.

The decrease in the general mortality is due to better care of infants and the prevention of contagious disease.

So far as statistics show, it does not appear that there is any difference in the mortality-rate of most infectious diseases from what it used to be. Pneumonia, diphtheria, scarlet fever, measles, small-pox are just as fatal as they used to be. Or if there is any difference, it is one which may be attributed to the special character of the epidemic, or the age and constitution of the people. Deaths from child-bed and surgical operations, it is true, are shown to have been greatly reduced.

We regret that the statistics of typhoid fever were not dealt with by Dr. Billings, because there is asserted to be a great reduction in the mortality from that disease by modern treatment.

When one comes to study death-rates and sick-rates of hospitals and among poorer classes he is confronted with a peculiar problem. Therapeutic measures efficient elsewhere do not apply here. A case of phthisis in the early stage dies or gets well exactly in accordance with modern treatment. This is a fact which physicians know, yet statistics would probably show just as great a mortality-rate from this disease as ever.

Every physician meets cases in which, by timely treatment, he has saved victims of scarlet fever, diphtheria, and pneumonia, etc., yet statistics do not show it, while, of course, mortality statistics do not tell of what is done in non-fatal disease or of the cured cases. So that, altogether, modern medicine no doubt accomplishes more than is apparent by figures and tables.

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## WHOLESALE OFFICIAL PRESCRIBING.

We notice with considerable surprise the publication in the daily papers of a prescription for the threatened epidemic of influenza, which is said to be by the sanction of the Board of Health. We trust we have been misinformed on this subject, as the so-called remedy is not only of no good whatever, but its use as directed is liable to be attended with great danger. Here is the prescription in question:

"For Russian influenza or 'grip'—spray the affected membrane with a ten per cent. solution of quinine freely and frequently, and take four or five times a day a pill made as follows: Quinine, 3 grains; camphor, ½ grain; extract of belladonna, ¼ grain."

Very many of the pharmacists about town have very properly refused to make up the prescription, and very many patients who believe in wholesale cheap prescribing may follow the directions to their sorrow. We cannot believe that the publication of this prescription is made by the authority of the Health Board. If it is, the Board owes an explanation and apology to the profession and the public.

## THE HOMŒOPATHIC HOSPITAL AFFAIR.

During the past few days a very interesting quarrel has been agitating homœopathic circles regarding the real articles of faith upon which the Hahnemannian creed shall rest. The questions at issue have been precipitated by a protest, on the part of the Homœopathic Society of this county, against certain gentlemen who are not members of said society being retained upon the Medical Board of the Homœopathic Hospital at Ward's Island.

It will be recollected that fifteen years ago the Commissioners of Charities and Correction set apart the Ward's Island Hospital exclusively for homœopathic practice upon the patients, and appointed acknowledged homœopaths upon the Medical Board. It now appears that five of the twenty-four physicians constituting the board are not members of this society; are consequently not declared homœopaths, and that the society has passed a resolution petitioning the commissioners to dissolve the board and appoint a new set, who shall all be members of the society.

The following queries were also laid before the commissioners:

"1. Do the commissioners intend that the Medical Board of the hospital should be composed exclusively of homœopathic physicians? 2. What is their criterion of judging if a physician is homœopathic? 3. Is membership in the Homœopathic Medical Society of the county that criterion? 4. Is a physician who does not comply with the law of the State eligible? And, 5. Do the commissioners intend that a physician who has left the Homœopathic Medical Society shall continue a member of the board?"

These questions were referred to the President of the Medical Board, and he replied that he believed there was no exclusively homœopathic physician in New York; that the law requiring physicians to belong to a county society was a dead letter, and that the reasons why two members had left the County Society were more creditable to them than to the society.

It is claimed by the other side that the intention to follow homœopathic principles can only be made manifest by a membership in their Homœopathic county society.

During the discussion of the question *pro* and *con* many curious facts have been brought to public notice, which show a very uncertain state of conviction on the part of those who are within the circle. It is admitted by several, if not all, the parties in the quarrel that homœopathy is not faith in infinitesimals, or in so-called potentization by trituration, but is the "like cures like" principle. Even this latter, we are told, is not a universal truth or absolute guide. Consequently a modern homœopathist uses the latter principle as the best general guide in selecting remedies. This appears to be the minimum modern test for a homœopathist, since the members of the society can claim no more.

Whether the members are right or wrong in their belief does not concern us. Each one is free to believe as he pleases and practise such a belief according to his conscience and the faith of those who place their lives in his hands. It is eminently proper for such as have a creed to stick to it.

Happily for the regular profession, it can view the situation with absolute impartiality, as from the nature of

things no quarrel upon the points involved could ever occur among us. In the absence of any other authority for homœopathy than that assumed by the society, we do not see how the said society can do other than endeavor to purge the Homœopathic Hospital of those men who do not even follow this "like cures like" rule.

As a matter of principle, if the Homœopathic Hospital has been set apart exclusively for homœopathic practitioners by the county society, the medical staff of the hospital should be composed of men concerning whose belief in the original dogma there should be no question. There does not seem to be any way of avoiding the issue. There has always been acknowledged intimacy between faith and works, and they cannot be consistently separated in this instance, despite the apparent ambition of the society to secure patronage. We sympathize with the gentlemen who are bold enough to be independent in their conviction, but it is this very independence which should invite their resignation as men who cannot practise what they do not believe. Hence it must be conceded that the decided vote by the Society, at its meeting on Wednesday night, to petition the commissioners to reconstruct the board, was perfectly proper and eminently sound.

## News of the Week.

For Sick Babies.—Many well-known ladies attended the house-warming in the babies' ward at the New York Post-Graduate Hospital, Nos. 222 to 230 East Twentieth Street, Wednesday afternoon. Among the many charities of New York there has been almost no provision made for the care of sick infants. The general hospitals decline to receive them, and many babies die because their mothers are unable to give them suitable nourishment and medical treatment. Recognizing this fact, the directors of the Post-Graduate Hospital, assisted by several charitable ladies, established a babies' ward. The work grew so rapidly that it was found necessary to occupy an entire building, next to the hospital proper. During the past summer more than one hundred babies were treated. No cases except contagious diseases were refused. The babies' ward is under the medical care of Dr. Henry D. Chapin. Addresses were delivered by Dr. D. B. St. John Roosa, Dr. Chapin, and the Rev. Dr. Satterlee.

Fatal Superincumbrance.—The deaths of fourteen infants in London, in one week, were attributed to "overlaying." The cause of one death in this city, last year, was reported to be "Sat on by Father."

One-half per Cent. Solutions of Creolin are becoming popular for vaginal injections, for washing out the bladder, and as injections in dysentery.

Alumni of Charity Hospital.—At the meeting of the Medical Society of the Alumni of Charity Hospital, held on the evening of December 10th, Dr. A. T. Muzzy read a very interesting paper, entitled "The Prevention of Ophthalmia Neonatorum." Dr. Joseph O'Dwyer presented some new laryngeal tubes, which are shorter than his former models and of much larger calibre—in fact, giving a passage very little smaller than the trachea itself, thus facilitating the removal of membrane, mucus, etc. Another modification is having the collar at the top of the tube hinged to the shaft in front, so that removal is easily performed by the finger. The collar, which is held in place by springs, lifts up readily, forming a ring into which the tip of the finger is inserted and the tube readily withdrawn without the use of instruments. The following officers were elected: *President*—Dr. D. Bryson Delavan; *Vice-President*—Dr. Ramon Guitéras; *Secretary*—Dr. W. L. Baner; *Treasurer*—Dr. A. T. Muzzy.

Hydrotherapy vs. Hydropathy: A Correction by Dr. Baruch.—Dr. S. Baruch writes: I desire to ask the correction of an error which has crept into your valuable report of my paper, "A Plea for the Practical Utilization of Hydrotherapy." Your reporter refers constantly to *hydropathic* measures, *hydropathic* treatment, *hydropathy*. The following extract from the paper will furnish my reason for asking the correction. I said that "hydrotherapy is the utilization of water, at any temperature and in any form (from ice to vapor), internally or externally, for the treatment of disease. I do not say *the cure of disease*. By this definition we emancipate it from hydropathy, a cold-water cure, and place it in the front rank of therapeutic measures." It is my aim to draw the line distinctly between a therapeutic and a sectarian term, because the adoption of the latter (hydropathy) by empirics has long estranged the profession from the use of a remedy whose utilization can be clearly traced (as I did in the address) to the fathers of legitimate medicine.

An Opportunity for the Study of Contagious Diseases.—The Health Department of the City of New York will throw open for competitive examination two positions as Assistant Physicians in the Willard Parker Hospital and the Hospital at North Brother's Island respectively, thus giving an opportunity for the clinical study of the different contagious diseases. Applicants may address Dr. D. M. Stimson, 11 West Seventeenth Street.

Private Establishments for the Care of the Insane in New York State.—The following resolution was recently adopted by the State Commission in Lunacy:

"*Resolved*, that hereafter no license for the establishment and keeping of an asylum or institution for the care, treatment, or custody of the insane or persons of unsound mind, for compensation or hire, shall be granted except to a duly qualified medical practitioner of recognized professional skill and standing, who is a graduate of a legally incorporated medical college, and has had actual experience in the care and treatment of the insane."

Medical Students as Hospital Attendants.—Dr. N. Roe Bradner, of Philadelphia, offers a suggestion to the effect that the service in hospitals and asylums, especially the latter, might be very greatly improved were medical students selected by preference to fill the places of nurses and attendants upon the sick. The students would be content with a moderate salary, since the work would be in the line of their studies, and an opportunity might also be afforded them to attend lectures and to keep up with their reading. The chief objection to such a plan would be the difficulty in so arranging the hours of work in an institution of any kind as to permit the attendants to absent themselves during a large part of the day in order to hear the necessary lectures.

THE JOHNS HOPKINS HOSPITAL BULLETIN is the title of a monthly publication issued under the auspices of the Johns Hopkins Hospital, and containing the proceedings of its Medical Society and various official announcements.

A PAIR OF FORCEPS LEFT IN THE ABDOMINAL CAVITY.—Two prominent surgeons in Pittsburg are charged with having left a pair of forceps in the abdominal cavity of a woman after a laparotomy. The presence of a foreign body was discovered by another surgeon, whom the patient had called in, and the wound was reopened and the forceps removed by him.

THE FRENCH GOVERNMENT has decided that hereafter foreign physicians (more especially English) will not be allowed to practise medicine in France, except "in instances presenting very exceptional claims." This means that the English physicians can no longer undertake to practise in the Riviera, or at the various Mediterranean health-resorts of France. If this rule is to be made to apply to Americans, it would be only fair to undertake reprisals. There are a good many French physicians who come over to practise in this country, and it is a poor rule that doesn't work both ways.

THE REPORT OF THE UNITED STATES MARINE HOSPITAL SERVICE for 1888–89 is a voluminous document, made so chiefly by the official account of the yellow fever epidemic in Florida, and numerous contributions to the pathology of this disease. The clinical and pathological reports are quite numerous, but do not contain much of interest. The work of the Service continues to increase annually, and during the past year 49,518 sick and disabled seamen were relieved, as against 20,922 ten years ago.

DR. THOMAS B. HARVEY, one of the leading physicians of the West, died at his home in Indianapolis, on December 5th. His death was caused by cerebral hemorrhage, coming on while delivering a clinical lecture. Dr. Harvey was born in Clinton, O., in 1827. He was Professor of Gynecology in the Indiana Medical College.

A SUIT BROUGHT BY TYPHOID FEVER SUFFERERS.—During the great typhoid fever epidemic at Plymouth, Pa., in the spring of 1888, which carried off hundreds of people, the Plymouth Water Company were held responsible for the outbreak of the fever, and suits for damages were instituted against the organization by the relatives of the victims. A test case was called for trial for the first time December 10th. Mr. Buckingham, who lost two children, is the plaintiff. He claims $10,000 damages. The company has an able array of counsel.—*Boston Medical and Surgical Journal.*

THE NEW STATE OF WASHINGTON.—The medical men of this energetic young State, says the *Pacific Medical Journal*, are to all appearances wide-awake and hard at work. They have already accomplished splendid results by having engrafted into their State Constitution a provision rendering it obligatory upon the legislature to enact laws regulating the practice of medicine, surgery, and pharmacy in the State. This one successful step puts them in the beginning in advance of every other State in the Union on this important question.

GRADUATES OF AN EASTERN MEDICAL COLLEGE DEBARRED.—A report in the daily papers states that a graduate of Jefferson Medical College was refused license to practise medicine in Minnesota, because the length of that college's term does not come up to the requirements of the Minnesota law. This law requires the applicant for examination for license to practise in that State to have attended at least three courses of lectures of six months each. Each six months' course is reckoned at twenty-six weeks. The course at Jefferson College lacks eight or nine days of the required length.

AT ITS SEPTEMBER MEETING THE VIRGINIA MEDICAL EXAMINING BOARD received twenty-six applications for examination. Sixteen were rejected, two withdrew, and eight were given permits to practise medicine. The low-grade medical schools should advise their graduates not to appear before this Board.

THE NEW YORK DOCTOR'S GIG.—We are told by the *College and Clinical Record* that many of the physicians in New York have recently adopted a distinctive vehicle, a buggy, with a top or hood which is a complete protection from the weather. It differs from a light trotting buggy, as the box is big, roomy, and comfortable, and the hood is arranged in several joints, so that a portion of it may be pushed back at a time. The wheels are almost heavy enough for a light T-cart. The doctors drive two horses, usually handsomely matched, well-built, and stylish animals, with docked tails. The coachman is uniformly in snug livery, with corduroys and varnished boots.

## Obituary.

### CHARLES HENRY NICHOLS, M.D., LL.D.,

NEW YORK.

DR. CHARLES H. NICHOLS, superintendent of the Bloomingdale Insane Asylum, died in this city on December 16th, of cancer of the liver and peritoneum, in the sixty-ninth year of his age. He had been in failing health for several months, and had taken a trip to Europe in the summer, partly in the hope of regaining his strength, but it was only within a few weeks that any apprehensions of a fatal termination to his illness were felt. He was fortunately spared much severe suffering, and the end came quietly as the peaceful closing of a useful life.

Dr. Nichols was born in Maine in 1820, and graduated in medicine from the University of Pennsylvania in 1843. He became assistant to Dr. Brigham in the Utica Insane Asylum in 1847, and soon after went to the Bloomingdale Asylum, where he served as physician for three years, resigning this position to accept an appointment as Superintendent of the Hospital for the Insane at Washington. It was here that the opportunity, which is said to come to most men, came to him, and it found him ready. In the face of much opposition he worked on and constructed, on original plans of his own, a hospital which will long endure as a monument to his genius. About twelve years ago he was recalled to the Bloomingdale Asylum, where he remained up to the time of his death.

Although the equal of any as an alienist, it was as an organizer and as an executive officer that his abilities shone pre-eminent. He was a stern disciplinarian—almost a martinet at times—yet none could ever complain of injustice at his hands, and he possessed the happy faculty of winning and retaining the affection of all his subordinates.

Dr. Nichols' was a well-spent life, and one that reflected honor upon the profession to which he belonged, and his death leaves a void which will not easily be filled.

# Society Reports.

## NEW YORK NEUROLOGICAL SOCIETY.

*Meetings of November 5 and December 3, 1889.*

DR. GEORGE W. JACOBY, PRESIDENT, IN THE CHAIR.

IN March, 1887, a commission consisting of Dr. E. C. Seguin, Chairman, Dr. M. A. Starr, Secretary, and Dr. W. R. Birdsall, together with two ophthalmologists, Drs. W. O. Moore and David Webster, and two other gentlemen nominated by Dr. Stevens, viz., Drs. C. L. Dana and Frank P. Foster, was appointed by the Society to investigate, in conjunction with Dr. G. T. Stevens, the treatment of ocular irritations as a therapeutic measure in certain neuroses. This commission presented its report on the

### TREATMENT OF EPILEPSY AND CHOREA BY THE CORRECTION OF OCULAR DEFECTS

in November, the discussion being concluded at the December meeting. Immediately preceding the reading of the report the following protest was presented by DR. G. T. STEVENS:

"MR. PRESIDENT, AND GENTLEMEN OF THE NEUROLOGICAL SOCIETY: I respectfully protest against the reception of the report now announced, for the reasons: 1st, That the commission, having failed to perform its part of the agreement upon which the report is to be founded, the report is not now in good order; 2d, because the report is not a report on the proposition at issue; 3d, because the report is inconsistent with the facts and is misleading; and, 4th, because it is an *ex-parte* report and objectionable in spirit and motive."

The President then called for the report of the commission, which was read by its Chairman, Dr. E. C. Seguin. The more important features of this report were as follows: After a plan of proceedings had been agreed upon between the commission and Dr. Stevens, the members began to send patients to the latter in April, 1887.

Each patient was examined by two neurologists, who agreed upon the diagnosis and compiled a history of the case. The patient was then sent with the history to Dr. Stevens, who examined the ocular conditions. Subsequently the ophthalmologists of the commission examined the eyes and reported their results to the Secretary, who added these notes to the copy of the history in his possession. When an operation was undertaken, notice of it was sent by Dr. Stevens to the Secretary, and he in turn notified the ophthalmological members and also the neurologist who had furnished the patient. These members then attended the operation and noticed the conditions found in the eyes before and after it, sending their records to the Secretary. Their non-attendance, however, did not prevent operations from being done, and the records of these operations, as well as records regarding prisms and glasses prescribed by Dr. Stevens for the patient, the commission had been unable to obtain from him.

The patients from time to time visited the member of the commission by whom they were sent to Dr. Stevens, and notes of the conditions found were made and sent to the Secretary. In the cases of epilepsy the record of attacks had not in all cases been kept in duplicate, Dr. Stevens having the record on the blanks furnished by the commission, and in these cases the records had not been accessible.

The total number of patients examined by the commission and sent to Dr. Stevens for examination was 28; 23 epileptics and 5 cases of chronic chorea.

All were found to have ocular insufficiencies; 5 were withdrawn without any treatment; 3, a month after examination; 1, two months after; 1, three months after; 2, four months after; 1, five months after.

The reasons for withdrawal were as follows: Five were unable to attend regularly. Two were declined by Dr. Stevens on the ground of organic disease. Five were withdrawn by mutual consent of member sending case and Dr. Stevens, for satisfactory reasons, such as non-attendance. Three were discontented because of increase of symptoms.

Hence of the 28 cases there were only 14 who were treated for four months or over, and these were the only ones available for conclusions. These cases were tabulated as follows, showing the duration of treatment, the date at which the patient was sent to Dr. Stevens, the date of the last report of the condition of the patient, and a statement of the apparent result of treatment.

| Cases. | Disease. | Duration of treatment: months. | Date of first visit. | Date of last report. | Result. |
|---|---|---|---|---|---|
| Elizabeth C... | Chorea.. | 30 | April, 1887. | Oct., 1889. | Much improved. |
| Flora K..... | Epilepsy. | 30 | April, 1887. | Oct., 1889. | Not improved. |
| John M. G.... | Epilepsy. | 5 | May, 1887. | Oct., 1887. | Improved. |
| George K .... | Chorea.. | 29 | May, 1887. | Oct., 1889. | Slightly improved. |
| Aggie H ..... | Epilepsy. | 21 | Jan., 1888. | Oct., 1889. | Not improved. |
| C. D..... | Epilepsy. | 4 | Mch., 1888. | July, 1888. | Unknown. |
| E. F..... | Chorea.. | 8 | Mch., 1888. | Nov., 1888. | Not improved. |
| G. H..... | Epilepsy. | 12 | Mch., 1888. | Mch., 1889. | Improved. |
| David S..... | Epilepsy. | 5 | April, 1888. | Sept., 1888. | Not improved. |
| Eva S..... | Chorea.. | 18 | May, 1888. | Oct., 1889. | Not improved. |
| L. P..... .... | Chorea.. | 10 | July, 1888. | May, 1889. | Improved. |
| Gertrude W.. | Epilepsy. | 6 | April, 1889. | Oct., 1889. | Slightly improved. |
| Mary McK... | Epilepsy. | 5 | May, 1889. | Oct., 1889. | Not improved. |
| Agnes H..... | Epilepsy. | 5 | May, 1889. | Oct., 1889. | Not improved. |

The results could, then, be summarized thus:

| Disease. | Cured. | Much improved. | Improved. | Unimproved. | Unknown. | Total. |
|---|---|---|---|---|---|---|
| Chorea ..... | None. | 1 | 2 | 2 | .. | 5 |
| Epilepsy ..... | None. | None. | 3 | 5 | 1 | 9 |
| Total ..... | None. | 1 | 5 | 7 | 1 | 14 |

Some analysis of the results was necessary. It was evident that six cases were put down as improved. Of these three had been presented to the commission by Dr. Stevens from his private practice, and no exact data had been obtained regarding them. This was especially to be regretted, as the exact degree of improvement could not be ascertained. In the other three reported as improved, the first improvement began in one after thirty weeks, and the patient had never been entirely free from chorea for one month; she had at times been better under the ocular treatment, at times worse, even now having choreic movements, usually before menstruation. In another the chorea was only slightly less than at the outset. The sixth case, an epileptic, was having about the same number of attacks as she had under bromide treatment, but far less than when she had no treatment whatever.

As regarded those not improved, many of the patients would say they felt better in spite of the written records proving the increased frequency of the attacks. This was in part due to increased hope and confidence in the success of the treatment and also to the freedom from depression of mind and bodily functions produced formerly by the use of the bromides. Others had complained much of headache and vertigo which had appeared during the treatment, and in several a condition of diplopia had been produced and now remained. A few of the patients had been made exceedingly miserable by the great increase in frequency and severity in the attacks, which had finally necessitated an abandonment of the ocular treatment and a return to drugs. This statement applied to a number of cases which had been withdrawn.

It would be noticed that none of the cases having been cured, all remained indefinitely under treatment, a perfect permanent ocular equilibrium not having been secured in any case. If it were impossible to secure such equilibrium, a cure could not be expected, granting the theory of Dr. Stevens. If it were possible to secure such equilibrium, it was to be supposed that it could be se

cured in at least two years; yet four of these cases had been under constant treatment for two and a half years without this result.

The following paragraph in the report represents the final conclusions of the committee:

"In view of these facts, your committee cannot but express the opinion that, as far as this investigation has warranted a conclusion, the method of Dr. Stevens does not afford a sufficient degree of relief to patients suffering from chorea and epilepsy to warrant its adoption or recommendation to the members of the Neurological Society as a means of cure or as the sole therapeutic measure."

DR. STEVENS then read a reply to the report of the commission, of which only the outline can be produced here. He said that whatever might have been the original condition of the majority of the cases sent to him during the first year, it was certain that they had long ceased to be cases of functional disease. While, as a matter of fact, everyone of these unfortunates belonged to the class of incurables by any of the ordinary methods of treatment, and while they had grown worse under such treatment continued during many years, they had in every instance under the present mode of treatment materially improved in health and in respect to the special diseases for which they were treated. All this improvement had been brought about without recourse to the deadening results of bromides or the toxic effects of enormous doses of arsenic. The following is a summary of the salient features of Dr. Stevens' reply:

"From the beginning, the commission entered upon its work in a manner entirely inconsistent with the true spirit of inquiry. It pursued it in a manner calculated to induce vexation, misunderstanding, and controversy. It occupied many months in securing a few cases, and has never yet complied with its own stipulations. It has through more than two years occupied itself in selecting the most unfavorable cases for treatment and has taken the favorable cases to itself. The spirit of the report is calculated to produce prejudice and tends to mislead. The report is now made in violation of every principle of right or fairness. The report is represented as an investigation of two diseases and not of a principle, in direct violation of the pledges of the commission. The commission has repeatedly sent cases well known to be unsuitable for the inquiry, and has, contrary to the articles of agreement and contrary to the private promises of members, in this report paraded these cases in long detail with the effect of misleading the judgment of those who are unacquainted with the facts. It has reported the results of treatment of the cases by minimizing the importance of the malady at the beginning of treatment and by magnifying all the unfavorable conditions now existing. The results represented are not in conformity with the actual facts, but are grossly at variance with them. It has reported as resulting from treatment unfavorable ocular conditions which do not exist, and has in this respect made mistakes which, by ordinary care, should have been avoided."

DR. HAMMOND had seen eight of the cases described, in company with Drs. Weir, Webster, Ranney, and Amidon the day before the meeting. The patients and their friends all admitted that the cases had been improved very much by Dr. Stevens' treatment, a fact which was at great variance with the statements made by the same patients to the commission.

DR. SEGUIN said that that part of Dr. Stevens' remarks which reflected upon the fairness and integrity of the commission needed no reply, the names of the members of the commission being a sufficient answer. Dr. Stevens' statements as to the evil effects of the arsenical treatment of chorea, and of the bromides in epilepsy, appeared to pander to popular prejudice, and were altogether unwarranted by fact. Some clinical experience and knowledge of practical therapeutics would have prevented such expressions. Arsenic was almost never harmful to choreic patients, and the evils of bromism could be prevented and corrected by watchful management and appropriate associated treatment.

It was true that the commission had had the greatest difficulty in inducing patients to undergo the treatment, but their failure to obtain twelve cases within the first few weeks was not through neglect or violation of the agreement. It was simply an impossibility to supply the necessary material in a given time: enough had been furnished in all. Dr. Stevens, in not furnishing data as to the course and progress of the cases as stipulated in the agreement, had violated the compact. The report had no personal animus and was not made up of the ideas of any one or two members. It expressed the opinions of all of the members of the commission, even of those selected by Dr. Stevens himself.

As regarded the statements of friends and relatives in medical investigations, these should be received with scientific doubt, particularly when they differed from the facts as shown by the commission.

As far as his own cases were concerned, one had been nearly killed by the ocular treatment involving the omission of bromides, passing into a status epilepticus, but improved again under bromides. Another had been under ocular treatment for fifty-two weeks before improvement became marked. Another, the girl with chorea, showed no tangible improvement until after the lapse of seven months. His own experience in cases of chronic chorea, even when of five to seven years' duration, was that they were not merely improved very soon under arsenical treatment with rest in bed, but, as a rule, cured in from two to three months. This girl, though improved under the ocular treatment, had now transient diplopia for far and near, while the second case alluded to saw double at the present time on looking to the right. The improvement in these cases (which were the best of the series) could not therefore be ascribed to the ocular treatment, but was to be attributed to improved health and time. Dr. Stevens had reported fifty per cent. of cures of epilepsy in his own (former) series of cases, but in the cases examined by the commission there was not one. Moreover, he had reported his cures as taking place in a few weeks after beginning the ocular treatment, while in these cases, where improvement of any kind had taken place, many months had been required before decided change had been manifested.

DR. STARR, in regard to the remarks made by Dr. Hammond, referred to the records of the cases already read to the Society, which demonstrated in each case an increase in the number of attacks, in some of them to three times as many as formerly. It was well known that the statements of epileptics were unreliable concerning their own seizures, and in several of these cases it was evident from their own records of their attacks that any statements they had made that they were better were in direct opposition to the real facts. The recollections of such patients regarding their past states could not be considered as at all comparable with the actual observations taken during such periods.

In one case, pronounced by Dr. Webster as normal ophthalmologically, and in every respect a purely functional case, Dr. Stevens claimed to have found optic atrophy, and called it an organic disease.

DR. BIRDSALL had seen an epileptic, one of the cases mentioned by Dr. Hammond as having reported improvement to him, and whose sister corroborated the patient's statement. He had asked the sister why she had made this statement. She had replied that she did not refer to the number of fits, which was unchanged, but meant that the patient seemed to be brighter without the bromides. The record showed, however, that the number of attacks had increased, and that the patient was in reality much worse under Dr. Stevens' treatment.

DR. DANA said he had been nominated for the commission by Dr. Stevens himself, and felt that he represented him in a measure, but naturally his chief object had been to obtain the exact truths in the matter. He had

sent twelve cases of his own to the commission, and had tried hard to get others to go. He had made every effort to get suitable cases, but he had seen no case much improved under Dr. Stevens' treatment. One case seemed to be improved, but he could not feel sure that improvement was due to the ocular treatment. He had lost most of his faith in it as a therapeutic measure. We ought, however, to pay some tribute to Dr. Stevens for perfecting the technique in his procedures, even though he had pushed his theory to extravagant conclusions.

Dr. Stevens said that when the investigation was commenced, cases were accepted by the commission which ought never to have been taken. One was a pronouncedly organic case, and, in fact, not one of the cases was functional.

Dr. Webster stated that the diplopia now existing in one of Dr. Seguin's cases did not amount to much. It was trivial. He had seen Dr. Stevens operate many times, and had learned very much from him as to the technique in the treatment of insufficiencies. Dr. Stevens had, moreover, greatly improved the nomenclature in this direction. Not being a neurologist, he did not feel able to judge of the therapeutic effects of the operations in these cases.

Dr. Stevens said that the operative technique was exceedingly delicate and difficult, and that the greatest skill was required, such that he did not claim yet to have himself attained; but the more skilful the operator becomes, the more valuable will prove to be this therapeutic measure.

Dr. L. C. Gray had listened with interest to the report and its discussion, and was wholly unprejudiced on either side. He did not believe that Dr. Stevens had substantiated his serious charges against the commission, or caused any particular improvement in the cases. Esquirol showed in 1828 that temporary improvement took place in all cases of chronic epilepsy in La Salpêtrière when treated by drugs known at that day. A decrease of from six to three fits daily could not be considered a permanent improvement, because such decrease was often spontaneous, and, in some cases, fits spontaneously ceased for years. He agreed with Dr. Seguin that where improvement did not begin before fifty-two weeks after treatment had been begun, any improvement that might take place could not fairly be ascribed to the measure employed. If Dr. Stevens had claimed merely that headaches and other trivial neuroses had been relieved by his method, many of the gentlemen present would have coincided with him; but he had undertaken too much, and was extreme in his claims. The same therapeutical principle underlay his system as that of Sayre, who cut prepuces, and that of the English surgeon who amputated clitorides for the cure of the slighter neuroses.

Dr. Amidon said that he had been invited, with a number of others, by Dr. Ranney to see the cases described at Dr. Stevens' office, and they had the complete histories of the cases at the time upon which to form an opinion. He intended to oppose the acceptance of the report of the commission, for it was clearly apparent that Dr. Stevens had brought about improvement in these patients without resort to medication, which was more than any of us could do.

Dr. Seguin said, with reference to the work done by Dr. Stevens, that all of the members of the commission had appreciated it highly and had felt like adding something commendatory of his skill to the report, but refrained from so doing because, under the circumstances, it might have appeared hypocritical, and was really alien to the subject assigned to the commission, viz., the determination of results.

Dr. J. L. Corning thought that Dr. Dana's tribute to the good work done by Dr. Stevens was in exceedingly good taste. Dr. Stevens' work was unusually scientific and original, and there seemed to be very little of that sort of work done in New York, where compilation and the importation of foreign ideas were the order of the day. Hence this discovery of Dr. Stevens ought to meet with wide recognition.

A motion to adopt the report of the commission was then carried by a vote of five to four out of the eighteen members present, the members of the commission refraining from casting their votes.

The following motion, made by Dr. Amidon, was unanimously carried:

"That the thanks of the Society be extended to Dr. Stevens for the assiduous labor he has devoted to the work of the commission, and that the Society assure Dr. Stevens that it highly appreciates the ingenuity and technical skill he has shown in the prosecution of his method."

Besides the report of the Stevens Commission, the following contributions were made at the two meetings of the Society.

Dr. Ira Van Gieson read a paper entitled

A CONRTIBUTION TO THE PATHOLOGY OF THE LARYNGEAL AND OTHER CRISES IN TABES,

and described a case of tabes with laryngeal attacks during the last year of the illness. One of the crises proved fatal. Microscopical examination showed the lesions of a chronic neuritis of the roots of the vagus and accessary portion of the spinal accessary nerves on both sides. Neuritis of the root-fascicles or trunks of one or both of these was regarded as more frequently the cause of the laryngeal crises than central lesions.

The author divided laryngeal crises into two classes: A first class in which the glottis constrictors and dilators were normal, and the crises occurred by reflex spasm of the adductors; a second more numerous class of cases, in which the constrictors and dilators are in a greater or less degree of paralysis.

The first form of the crisis might be produced by a neuritis of the roots of the accessary portion of the eleventh nerve, irritating the sensory fibres of the larynx, and being responded to by motor impulses through the vagus, which would produce closure of the glottis by contraction of the adductors. The second form of the crisis might be produced by a destructive stage of the neuritis in the vagus, inducing a motor inability of both the adductors and abductors. But as it has been shown experimentally, in animals, that the adductors are stronger than the abductors, a reduction of power in both sets of muscles would render the equilibrium of the two sets of muscles so unstable that reflex irritation of the motor laryngeal fibres, or direct irritation of these fibres in the vagus by the neuritis, would be responded to by a contraction of the stronger adductors, analogously to the results of artificial stimulation of the motor laryngeal fibres in animals. When the neuritis affects both the vagus and accessary nerves together, the conditions are favorable for the production of violent crises. A localization of the lesions causing the other crises in tabes was based on Gaskell's description of the distribution of the sympathetic system.

Dr. A. Schapringer presented a case of

CONGENITAL BILATERAL ABDUCENS PARALYSIS WITH FACIAL PARALYSIS.

The patient was a girl, eight years of age, with congenital paralysis of both facial nerves, and inability to rotate the eyeballs either to the right or to the left. The faculty of rotating the eyeballs upward and downward was unimpaired, and so was the faculty of convergence. This condition of the motor apparatus of the eyeballs is termed by certain authors "bilateral abducens paralysis," which designation Dr. Schapringer considered insufficient and misleading, and he therefore proposed the term "bilateral pleuroplegia" as a substitute. There were only four similar cases on record, viz., one each described by Alfred Graefe, G. C. Harlan, Julian Chisolm, and P. J. Moebius. Other co-existent anomalies present in the child exhibited were: A protuberant glabella, bilateral epicanthus, a slight deformity of the terminal phalanx of the left index-finger, a bifid uvula, and a sunken sternum, representing a rudimentary form of "funnel chest" (*Trichterbrust* of the

German authors). There was also a partial implication of the motor portion of the fifth and of the hypoglossal nerves.

Dr. Schapringer considered the phenomena within the sphere of the cranial nerves as due to a lack of development of the brain involving the nuclei of the fifth, sixth, seventh, and twelfth nerves.

Dr. Sachs was acquainted with the case reported by Moebius, which, however, differed from this in that there were four nerve-nuclei affected in the latter. It was a question whether this was a congenital condition or a poliencephalitis superior occurring shortly after birth. He referred to a case of his own of congenital bilateral ptosis, and thought it was probably similar to those just described.

Dr. Seguin had observed such a condition to follow traumatism. A lady, ten years ago, was thrown from her carriage, and made unconscious for several hours. She had a double abducens paralysis, lasting several years. He thought there was hemorrhage into the nuclei of these nerves.

Dr. Corning had seen a case precisely like that of Dr. Seguin following a blow upon the neck.

Dr. Birdsall described a case of double abducens paralysis, occurring in a man whose head was caught between two car-buffers.

Dr. Schapringer said he had frequently seen cases of double abducens paralysis, but that he knew of only four where there was in addition disease of other cranial nerve nuclei.

Dr. C. A. Herter read the clinical history and report of the autopsy in a

CASE OF CERVICAL PARAPLEGIA FROM DISLOCATION.

J. F——, a mason, fifty-seven years of age, fell head first from a scaffolding, a distance of twelve feet, striking with his head against a board. Patient was conscious on admission to the hospital. Examination failed to elicit evidence of fracture or dislocation in any part of the cervical spine, but there was great tenderness of the sixth and seventh vertebræ. There was complete motor paralysis below the arms. The forearms and arms were normal, but there was weakness of the muscles of the hand. There was also anæsthesia and analgesia of the lower extremities; and of the trunk extending high up on the chest. On the arms the anæsthesia involved, roughly speaking, the distribution of the ulnar, internal cutaneous, and lesser internal cutaneous nerves, and was highly symmetrical.

With the exception of the plantar reflex of the left side, both superficial and deep reflexes were absent when the patient was admitted. There was a cincture pain about the lower part of the neck, and above and below the clavicles there was hyperalgesia. Below the neck there was pronounced myoidema, and fibrillary contraction could readily be elicited. Respiration was purely diaphragmatic. Temperature on admission, 97.2° F. Retention of urine, and incontinence of fæces.

Nine hours after admission it was found that the sensory loss was the same as before, but the motor paralysis had spread so as to involve the flexors and extensors of the wrist, the triceps, and, to a less extent, the pectoralis major, and the pronators and supinators. Very slight power remained in the biceps. At the time no reflex could be obtained. Respiration continued diaphragmatic. The pulse was somewhat feebler than on admission, but good. The temperature had risen during the afternoon following admission to 104° F.

On the day following admission the patient's condition was about the same, except that the biceps was somewhat feebler. During the afternoon of this day there was some embarrassment of respiration, and on the second day after admission the patient died from respiratory failure, having survived the injury forty hours.

The autopsy, which was conducted after death, revealed a dislocation forward of the sixth cervical vertebra, and an oblique fracture through the left superior articular process of the sixth vertebra. The forward displacement of the sixth vertebra was probably not more than one-third of an inch. How much pressure was being exerted on the cord at the time of the autopsy could not be determined. Examination of the cord showed that the eighth cervical segment was extensively disintegrated, and that the seventhwas considerably softened by the displacement of the vertebra. At the junction of the sixth and seventh segments the central canal was distended by hemorrhage and there seemed to be some extravasation into the surrounding gray matter. Above the sixth segment the cord was normal. The case supported the view that the peculiar distribution of the sensory disturbance noted in the upper extremities depended on a lesion of the eighth cervical and first dorsal segments, and that in this case the biceps was represented at a lower level than is considered usual, *i.e.*, in the lower part of the sixth segment.

Dr. Starr said our knowledge was not yet complete with regard to localization in the cord, and every such case was very valuable. In his table he had located the biceps-nuclei in the fourth segment because it was so often associated with the deltoid in paralysis, and this was the level of the latter muscle. It seemed, from Dr. Herter's case, that the biceps-group of cells had a vertical arrangement of greater length than he had supposed, extending probably from the fourth down through the cord as low as the seventh segment.

Dr. Herter thought that the nuclear arrangements might differ in various people, and in his case the biceps-nucleus may have been lower than usual.

Dr. Dana hoped that Dr. Herter would examine his experiments with Dr. Abbe in two cases where, in operations upon the spine, he had applied electricity to the nerve-roots, and shown that there was much more overlapping of cell-groups than was ordinarily supposed.

## NEW YORK ACADEMY OF MEDICINE.

*Stated Meeting, December* 5, 1889.

Alfred L. Loomis, M.D., President, in the Chair.

The following nominations were made: For *Vice-President*, one to be elected, Drs. R. C. M. Page and Joseph D. Bryant; for *Trustee*, Dr. Laurence Johnson; for member of *Committee on Admissions*, full term, Dr. A. Caillé—short term, Dr. French, of Brooklyn; member of *Committee on Library*, Dr. Egbert H. Grandin.

Dr. J. D. Bryant read a paper on

THE HEALTH DEPARTMENT AND THE CONFERENCE COMMITTEE OF THE ACADEMY OF MEDICINE.

The subject of the paper, he said, was certainly of great interest to the Health Department (of which he was a member), and should be of interest to the medical profession of the city. He knew of no good reason why legalized action for the prevention and treatment of disease, as embodied in the Health Department, should not receive the earnest support and hearty co-operation of that profession, which sought the same end, although by somewhat different means. It was true, no doubt, that unavoidable friction would here and there arise, but "friendly and considerate friction makes good friendship brighter and keener, while unkind and thoughtless opposition darkens, dulls, and often destroys it, substituting confusion for order, defeat for victory, disaster for success, and not infrequently death for existence."

The Commissioners of the Health Department recognized the need of the sympathy, advice, and support of the medical profession, and he thought no wiser thing had been done than when, at its suggestion, two years ago, the Academy appointed a conference committee to confer with it, consisting of five members. The gentlemen then appointed were Drs. Agnew, Janeway, Stephen Smith, and Derby; the then president, Dr. Jacobi, also becoming a member. Valuable suggestions and aid had been rendered by this committee and the pathologists of the department, Drs. Prudden, Biggs, and H. P. Loomis, in

matters concerning quarantine against imported disease, diagnosis of Asiatic cholera based on bacteriological investigations, the getting up of a disinfectant plant situated at the Willard Parker Hospital, the prevention of tuberculosis, etc. A warm compliment was paid Dr. Agnew, who, as a member of the Conference Committee, had manifested his usual devotion to the public welfare at the sacrifice of personal interests. The department had not only established a disinfectant plant at the Willard Parker Hospital, where infected material could be promptly and safely destroyed, but it was its purpose to found disinfecting laundries where infected textile fabrics could be disinfected and returned to the owners. The author gave a condensed statement of some of the work done by the department, with the aid and advice of the Conference Committee, since its appointment in 1887. The number of buildings inspected during that time, in which there had been contagious diseases, was (we give the round numbers) 35,000. Of the forms of disease, there were a few cases of typhus fever, 2,000 typhoid, 16,000 scarlatina, 10,000 measles, 13,000 diphtheria, 285 cerebro-spinal meningitis, 216 small-pox, 878 phthisis, 128 tubercular meningitis, 52 dysentery, 61 malaria, 23 tabes mesenterica, 4 entero-colitis; total, 44,000. The number of rooms fumigated was 33,000; number disinfected, 116,000. It was not uninteresting to note that $SO_2$ was as good an agent for disinfecting as any. It would be noticed that the department was investigating the question of contagion and spread of tuberculous disease, and if it found sufficient reason for it, physicians would be requested to report cases coming under their notice, and like precautions would be taken as in certain of the contagious fevers. Visiting houses where contagious diseases existed had led to eight thousand complaints of the sanitary condition present, which otherwise would not have been reported, or at least not so soon.

During the thirty-two months ending with November 1st, over one thousand cases of contagious diseases had been received at North Brother Island Hospital, and 1,780 at the Willard Parker Hospital. In the latter hospital the mortality rate in scarlet fever in children, out of 425 cases treated, was 20.7 per cent.; diphtheria, 519 cases treated, 20.85 per cent. At North Brother Hospital, small-pox, cases treated over 300, mortality rate 19.69 per cent.; scarlet fever in adults, cases 361, mortality rate 10.87 per cent.; measles, about 200 cases treated, mortality rate less than seven per cent.; whooping-cough, cases 32, mortality rate 16.62 per cent.; typhoid fever, cases 4, mortality rate seventy-five per cent. A few cases of typhus, mumps, chicken-pox, all recovered. Out of 1,001 cases treated, the average mortality rate had been 13.49 per cent. These results compared fairly with cases treated outside in the city of New York from January 1, 1888, to November 9, 1889, as follows: Scarlet fever, cases (round numbers here given) 14,000, mortality rate 16.44 per cent.; diphtheria, cases 11,000, mortality rate 29.33; measles, cases 13,000, mortality rate 7.77; typhoid fever, 2,300, mortality rate 26.63; chicken-pox, cases 16, mortality rate 31.25 per cent. These were the only diseases which could be used for comparison. He added that the four cases of typhoid fever admitted to North Brother Island Hospital were very severe cases when they entered.

In the vaccination department, the total number of vaccinations in 1888 had been 83,000; of the primary vaccinations eighty-three per cent. had been successful; of the secondary vaccinations 47.5 per cent. had been successful at the first attempt, and twenty-four per cent. at the second attempt. The figures for 1889, as far as they had been made out, were in nearly the same proportion. During the past five years the record of births per year had averaged 32,407, while the number of primary vaccinations by the department had averaged over 24,000 per year. He said it would thus be seen that the city was well protected against small-pox.

The importance of having in the city sufficient and suitable accommodations in which cases of contagious diseases could be treated among transient people and others who, by reason of their affluent circumstances, could avail themselves of the attention which they would like to receive, and were excluded from hotels and private houses, should be given most earnest consideration. This became more important in view of the proposed International Fair, should it be held here.

Other work done by the department had been to thin out the overcrowded rooms in the Italian districts. The population of such crowded rooms had been reduced during the past sixteen months by seven thousand people.

The prevention of the adulteration and sale of unwholesome food had not been lost sight of by the department. In less than two years it had condemned and destroyed 17,741 quarts of milk, 827 tons of fish, 428 tons of meat, 1,546 tons of fruit and vegetables. The arrests and fines made in connection with these seizures had proven somewhat salutary, as was shown by the following statement: In 1888 there were 450 arrests, with fines amounting to $13,027; in 1889, to November 1st, there had been only 264 arrests, with fines amounting to $8,835.

Since 1879 the Department had had the power of approval or disapproval of all plans for the construction of tenements and lodging-houses, as related to light and ventilation; also the approval and disapproval and supervision of all changes made in buildings to be used as tenements or lodging-houses, as regarded light and ventilation; and since 1881 the department had had the approval and disapproval and supervision of the plumbing of buildings erected in the city. This involved great responsibility and labor, and a high degree of special knowledge and vigilance on the part of those engaged in the work. The last two years, ending with November 1, 1889, the plumbing plans supervised had been 3,157; light and ventilation, 1,935; covering, so far as concerned plumbing, over 6,000 houses, and for light and ventilation over 3,500 houses.

It was not necessary to speak of vital statistics, with which the profession was already familiar, and other details which would grow wearisomely long. It would be of interest, however, to state that the Health Commissioners contemplated the enforcement of an approved method of the disposal of stable manure on or about the 1st of May. The permanency of position and promotion of those engaged in the service of the department would depend upon the faithfulness and ability with which they discharged their duty. The department requested the earnest support of the profession and laity in the discharge of its duties, and requested that the vacancy in the Conference Committee made by the death of Dr. Agnew be filled, and that the President of the Academy be always a member.

Dr. A. Jacobi, being requested to open the discussion, said he hoped that at the proper time two motions would be introduced and prevail. (They were introduced and adopted later as new business, making the President a member of the Conference Committee, and requesting Dr. Bryant to read a report on the disposal of manure at the next meeting of the Section on Public Health and Hygiene.)

Dr. Jacobi went on to say that he was ever of opinion that every man had a right and a duty to give the very best he had in the service of the community. Now, the best which the Academy had was its collective knowledge. He was not at all of the opinion that every individual physician was an expert in everything that might pertain to the Department of Public Health, but he did know that the medical profession, as represented in the Academy of Medicine, was and ought to be expert in everything medical. He included among things medical dietetics and hygiene, in all their aspects. When, as President, he invited Dr. Bryant to read his paper before the Academy, two years ago, in which it was suggested that a conference committee be appointed, he knew that the Academy would certainly show its willingness to aid the Health Department, and it had done so whenever it had been expected of it.

The Academy had been recognized for some time as representative of the medical profession in this city, and justly so, and the medical profession had been recognized as at least fit to be associated with the Public Health Department. It was known that for a long time past a medical man had been a member of the Health Department. That was not more than could be expected. But something more might have been expected. For instance, there was a law forbidding a medical man being president of the Department of Public Health. Some were of opinion that that was a good law; many of the profession believed that it was not; but this much was sure, that for a good many years past the men at the head of the Health Department had done everything in their power to facilitate the work of the medical men who had charge of medical matters. We had all been in contact a good deal with the former president of the Board of Health, and had found that he was efficient and willing to serve the interests of the community; and he knew from the very best possible source that the present incumbent tried to obey the same law, and left medical matters in charge of the medical member; and on this fact the Health Department, the public, and the medical profession could be congratulated.

He wished to make a few suggestions. First, that the attention of the department in the future be directed to a part of the furniture of buildings inspected for their general sanitary condition, or because of the presence of contagious disease within their walls. For instance, in tenements and flats occupied by eight to twenty families, the stairs would be found covered with carpet which became the receptacle of all sorts of disease-germs, including such contagious diseases as scarlet fever, diphtheria, etc. He approved of the author's remarks on the need of a hospital for the reception of strangers and others taken down with contagious diseases, and said he thought there was need of as many as a score throughout the city for all classes, citizens and strangers. A child with diphtheria was exposed to repeated attacks when confined to one room in order to isolate it from other members of the family; relatives and friends feared to receive it when convalescent, as they did also its healthy brothers and sisters. It would be well to have a quarantine station at which the healthy members could be received for a time until danger of contagion in their homes could be removed.

Mr. C. C. Wilson, president of the Board of Health, said: Thanks for your kind invitation, I have been able to listen this evening to the reading of a paper upon a subject which is most interesting to me at the present time, namely, the best means of enabling the Board of Health to promote the well-being and the good of the people of the city of New York. It seems to me, from the position taken by the author, that the paper admits of scant criticism. From observations made during the six months I have been connected with the Health Department, and from a careful investigation of its records since 1873, I am convinced of the wisdom and necessity of maintaining close relations between the medical profession of this city, the Conference Committee of the Academy of Medicine, and the Board of Health. Your honorable body is not only well abreast the science of the day, but it makes it practical, and transforms the dream of the theorist into the reality of the philanthropist.

The powers of the Board of Health are ample, but it needs at all times your active co-operation and support. It has been well said that all laws are but as ink and parchment unless supported by public approval, and in your special province no class or profession wields so powerful an influence, and is so widely heard, as yours. Hence we welcome suggestions from you as to what is best, and join hands heartily with you in breaking down prejudice and objection. With your aid, the Board of Health will be enabled at all times to strike telling blows at the foundation of disease.

Without going into details, the several bureaus of the Board of Health are so constituted, in my opinion, especially with regard to the hospital service, and the bureau of contagious diseases, as to be ready at all times for any emergencies they may be called upon to meet. For myself, I have mapped out a course since I have had the honor to act as one of the Commissioners of Health, and that is, to stand shoulder to shoulder with my colleagues, while managing the department as economically as prudence suggests. While doing this, let me assure you, one and all, and I know I voice the sentiments of my associates, every suggestion of your Conference Committee will be well and favorably received and considered, and carried out if possible. Thus favored with your advice and moral support, who shall say that, of all great cities, ours is not only the one from which disease and pestilence is shorn, but also the one most blessed with that happiness which springs of freedom from suffering.

Dr. D. B. St. John Roosa said he thought it would not be considered offensively eulogistic, inasmuch as he would later have something to say which could not at all be considered in that light, if he remarked in the beginning that, no matter what else we may have been fortunate in in the Board of Health, we had been extremely fortunate in the medical men who had represented us. But, he said, he had not come to the meeting in any complacent mood. He was not satisfied with the condition of things in New York. He considered the great work done by the Board of Health (and no man appreciated its greatness more than he did) as but rudimentary. Every city that maintained itself at all in the category of decent cities ought to superintend the meat and milk, the tenement-houses, to vaccinate the children—those things which had been done so well here. Dr. Jacobi had said that the medical matters of the Board were referred to the medical member. But there was not a matter, from A to Izzard, which came to the hands of the Board of Health, which was not a medical matter, and the majority of the Board ought to be medical men. The present law, which said that a medical man could not be president of it, was an offence to the profession. The distinguished president of the Board had said that the powers of the Board were ample. He was glad to hear it. Yet, with all this power, we had to wait until the 1st of May for the correction of the manure nuisance. Besides, in this matter he would say, with due respect to the Board, that he would believe when he saw. Then, consider the condition of our streets. Yet he had never even heard it suggested that the Board of Health ought to do anything about that. He would advise more ample powers. And so of the death-dealing electric wires, the subways, etc.

Dr. E. G. Janeway remarked that there were two sides to every question, and if he might say a word *apropos* of the remarks of the last speaker, he might assert that there were two sides even to the manure question. There were certain controlling methods by which the Board of Health was alone able to exist and retain its powers. If it should attempt to carry out all that the law had given it power to do, it would soon kill itself. Arbitrary and radical measures, carried out in a way to compel changes in an instant in the method of doing things, would be impossible, or would arouse such public indignation as would crush the Board and put it out of existence. Some of the most urgent criticisms upon the Board which he had heard came from medical men. We made those criticisms when the matter came home to ourselves, but when it concerned other people we wanted to see radical and instantaneous relief. In the matter of co-operation, there was no doubt a great deal could be done by the medical profession in assisting the Board of Health. It could be done in two ways: by kindly assistance, and withholding invidious criticism. Regarding the founding of other hospitals for contagious diseases, he said there would be great difficulty in selecting a site, as there was in the case of the Willard Parker Hospital, neighboring property owners and others objecting even where grounds could be purchased. In the event of the International Fair being held here, a hospital should be estab-

lished near, but not on, the fair grounds. As to the electric wire question, it had been settled that power rested in another department. Finally, he would suggest to those who had criticisms to make on the actions of the Board, that they make them to the Board, and in a spirit to assist in correcting the evil; or, if their impressions were erroneous, to have themselves set right, and thus avoid unnecessary irritation. Let none recommend persons for a position in the department for whose fitness he could not personally vouch.

Dr. Daniel Lewis said that in past years he had himself thought an injustice was being done physicians in disqualifying them by law for the presidency of the Board of Health. But since he had become better informed of the duties of that office, he had come to the conclusion that it would be utterly impossible to secure a physician of repute in this community who would take it and perform all the duties pertaining thereto. For instance, would Dr. Roosa be willing to go down at nine every morning and remain in the office three hours looking over coal bills, signing checks, and the like? It was true, as he said, that these matters were all medical, but they were attenuated to the third and fourth dilutions. He for one was satisfied, for he believed we had a Board of Health with which we might and ought to co-operate. Regarding the powers of the Board, they were no doubt ample, and the danger was that it might exert those powers to the full extent. At least that was the fear of some citizens. Take the hospital for contagious diseases, there were many parents who objected to having the presence of scarlet fever in their family reported, through fear their child might be taken from them and placed under the care of a strange physician and strange nurse, and for that reason they sought to evade the law and not have the case reported. Nor was it conducive to recovery to have these little patients transferred in an ambulance from Harlem down to Sixteenth Street, to the Willard Parker Hospital. Thus it was evident that in all the Board of Health did the public interest, the interests of individuals, must be taken into consideration. The percentage of recoveries from contagious diseases outside the hospitals was probably greater compared with that in the hospitals, given by Dr. Bryant, for the reason that many cases without recovered, not having been reported at all.

Dr. H. J. Biggs wished to call attention to the fact that the action taken by the Board of Health, with regard to infectious diseases, showed that in this respect it was fully abreast the most advanced ideas on the nature of these diseases. This was shown in its providing for the disinfection of clothing, its investigations regarding the best method of preventing the spread of tuberculosis, etc. Yet there was probably only a small proportion of the profession who yet took practical note of the fact that tuberculosis was contagious.

Dr. Cyrus Edson, of the Health Department, said, in order to prevent misapprehension, that the department did not take children to the hospital without consent of their parents, unless great danger to others was incurred by leaving them at their tenement-homes. As to new hospitals for contagious diseases, he said the difficulty of obtaining sites might be met by erecting separate buildings on the grounds of present hospitals. Mount Sinai Hospital, for instance, had a good ward for contagious diseases, as had also the Nursery and Child's Hospital.

Dr. Bryant said, in closing the discussion, that the danger of the Health Department taking charge of the street cleaning, if it could do so, would be in its going beyond that work which was recognized as coming directly under sanitary matters in the accepted sense of the term, and not in the broad sense of the term which Dr. Roosa had mentioned. With regard to the electric wire, counsel had decided that it could not interfere. Regarding the Willard Parker Hospital, they had good nurses there to take care of the little patients, but mothers could come if they wished, and could send the family physician to take charge of the patient.

## MEDICAL SOCIETY OF THE COUNTY OF NEW YORK.

*Adjourned Annual and Stated Meetings, November 25, 1889.*

Alexander S. Hunter, M.D., President, in the Chair.

Julius Althaus, M.R.C.P., and Henry Morris, L.R.C.S., London, were elected to honorary membership.

The President read a brief address, in which he expressed appreciation of the renewed expression of confidence shown in his re-election, stated that essentially the policy of last year regarding scientific work would be adhered to, and made some strictures upon the medical journals in their relations to the societies. He then appointed the following

### COMMITTEES.

Committee on Ethics—Dr. E. L. Partridge, Chairman; Drs. H. E. Crampton, O. B. Douglas, A. M. Jacobus, and E. S. Peck. On Hygiene—Dr. Simon Baruch, Chairman; Drs. R. C. M. Page, J. E. Janvrin, Cyrus Edson, and Henry D. Chapin. On Prize Essays—Dr. L. Bolton Bangs, Chairman; Drs. E. H. Grandin and Andrew F. Currier. Auditing Committee—Drs. William Stevens and R. M. Fuller.

Dr. Malcolm McLean then read a paper (see p. 676) entitled

### CONSERVATISM IN GYNECOLOGY AND OBSTETRICS.

Dr. Thomas Addis Emmet fully indorsed the views expressed by the reader of the paper. The pendulum, he said, had swung far enough in one direction, and it was certainly time for it to begin to return. He had fought the extreme tendency toward operative interference, shown especially by the younger members of the profession, for some years, and felt that in doing so he had about lost caste. By some of his younger friends his want of appreciation had been attributed to advancing age, but he himself did not think this could be true, since he felt even more eager to learn now than he did twenty-five years ago. So far as the gynecological abuses which had called forth a paper of this nature were concerned, especially in the direction of removing the tubes and ovaries by surgeons in this country, he felt himself somewhat responsible. It was six or seven years ago that he was in Europe, and hearing Mr. Tait much spoken against in London he thought it probable some injustice was being done him, and, although he had no personal acquaintance with him, he went to see him, was received with marked courtesy, and became convinced from what he observed that he was doing a good work. He showed him about seventy-five or eighty pairs of tubes put up in bottles, with full histories, and gave him opportunity to see some patients operated upon, and there seemed to be no question that the condition present demanded the operation. Dr. Emmet was given some specimens, which, on his return, he presented at the first meeting of the Obstetrical Society, and indorsed the operation. Up to that time it had been practically unknown in this country, but he fully expected within a week to find a case demanding it. Three years, however, passed before a case presented itself to him in which he thought the operation was justifiable, but in the meantime, in the hands of the younger men it had spread like wildfire on a prairie, and he had to turn and fight it in its destructive progress. One of his younger friends had said that he was honest, but was getting too old to learn anything new. Certainly there were cases of pyosalpinx of clearly gonorrhœal history which could not be relieved in any other way than by an operation, but they were very few. He had found that over fifty per cent. of the cases which had come to him after other surgeons had said they could not get well without removal of the tubes and ovaries did get well at his hands without an operation. He could recall such a case even in which the origin of the tubal disease could

be clearly traced to gonorrhœa, yet the patient subsequently conceived and bore a child. Indeed, many of the cases in which removal of the tubes and ovaries had been pronounced a necessity would get well without any treatment whatever at the hands of a physician. Nature would sometimes cure a pyosalpinx as she would cure any abscess, by adhesive inflammation after discharge of the tubal contents had taken place through the uterus. Regarding too frequent removal of the ovaries, he had never sanctioned their removal except for malignant disease or cyst.

He had at one time ceased his attendance on the Obstetrical Society because it had come to be really an ovarian society, a soup-plate full of ovaries being served up at every meeting, many of which were simply undergoing the vesicular degeneration pertaining to their normal function, and he was unwilling to admit the position that it was necessary to spay a woman in order to cure her of nervous symptoms which he claimed were due to impaired nutrition or anæmia. Such an admission was a reflection on our skill as physicians. He had cured many such cases, but some men seemed to be too lazy, or lacked the skill to carry out the necessary steps, and save the patient from the mutilation of the knife. In the operation for repair of the cervix with which his name had been connected, surgeons so often exhibited such impatience, or lack of skill, or want of judgment in the selection of cases, that he sometimes thought the operation had in the aggregate done more harm than it had done good. In dysmenorrhœa, gynecologists were not satisfied to cut the cervix, but must tear it open even by the most violent means; yet if his experience of forty years had taught him anything, it was that obstructive dysmenorrhœa was only a myth; that the dysmenorrhœa was due to impaired nutrition of some form. He might thus go on criticising meddlesome gynecology indefinitely, did time permit. He would mention one point in regard to conservatism in obstetrics. The Woman's Hospital was first founded for the treatment of vesico-vaginal fistula, and there came under his charge, either directly or through the service of Dr. Sims, over five hundred cases. In analyzing them some time ago he was surprised to find that the cause was, in nearly all instances, not instrumental delivery, but delay. It taught a valuable lesson, namely, that it was very dangerous to delay the use of the forceps when they were called for. As soon as impaction took place, the sooner the woman was delivered the better. Mr. Barnes, of London, had written him several years ago rather reflecting on our skill as obstetricians in this country, since one man had seen as many as five hundred cases of vesico-vaginal fistula, but, on looking up the histories of those cases, Dr. Emmet found that fifty-eight per cent. of them were immigrants recently landed from Europe, especially parts of Ireland where they were too poor to obtain proper medical service.

Dr. H. C. Coe said he had been strongly impressed by a concluding sentence in the paper bearing on the proper instruction to be given at the postgraduate schools. He had found in that field that conservatism in gynecology was an exceedingly unpopular position to take. In fact, one who took that stand on days when the hospitals offered an opportunity to witness a laparotomy was likely to be mortified on entering the lecture-room to find many vacant seats. It seemed to him we were in danger of forgetting that laparotomy constituted only a very small part of gynecological practice. It had been his constant attempt to impress students with the fact that when they returned home they would probably have ten cases of retroflexion of the uterus to one of laparotomy; probably the ratio would approach more nearly ninety-nine to one. He had discussed the pathological side of the question pretty thoroughly several years ago, and in doing so had come pretty constantly in collision with Mr. Tait, yet he had not found any reason to alter his views. His stand was that removal of many of the tubes and ovaries, exhibited at the societies, was hardly justified by the findings of the pathologist. He believed, however, that there were now far fewer uterine appendages removed which were only slightly diseased than there were three or four years ago, and he further believed that four years hence the number would be much smaller still. He firmly believed that the triumphs of the future were going to be in other fields than laparotomy; that extra-uterine fœtation, retroflexion and fixation of the uterus, etc., would become of greater interest because of being met with every day, even by the general practitioner.

Dr. Egbert H. Grandin thought the Society could not be too grateful to Dr. McLean for his conservative paper. The opinions which it expressed were so thoroughly in accord with those which he had always held that he could find absolutely nothing in it to criticise. He had seen, and was still seeing, in a somewhat active gynecological practice, scores of women with uterine and peri-uterine disease, yet he had seen very few whose tubes and ovaries he had been obliged to remove in order to render them comfortable or in some even to effect an absolute cure. He was satisfied that the laparotomy craze which had started from Birmingham a number of years ago had done more harm to womankind than it had done good. He was also satisfied that we had about reached the end of it. So far had it gone that it was not uncommon to hear gentlemen who had but recently been graduated from a medical school boast of having opened forty, fifty, or seventy bellies. He had made it a rule for himself to consider no woman's tubes or ovaries in a condition demanding the knife, with two exceptions, which he presently mentioned. Although on examination he found the uterus adherent, and felt bogginess on either side in the region of the appendages, and the patient in considerable pain, he was still willing to try what could be done by the use of the glycerine tampon, blisters, prolonged hot douches as recommended by Dr. Emmet, mild galvanism, etc. If, after months of persistent treatment of that kind (if he were able to keep her out of the hands of some laparotomist that length of time), he was still unable to make her comfortable, he would be willing and ready to open the abdomen and take out the uterine appendages. But in his experience such treatment was capable, usually, of putting the patient in a condition of comfort. It might not cure her, some physical signs might remain, but if she was comfortable, and might remain so to the end of her life, it was not necessary to tell her that she was still diseased, or to take out her tubes and ovaries to be able to assure her that a radical cure had been effected. The two exceptions alluded to were in cases in which the ovary was really cystic, not simply covered with normal Graafian follicles, and cases of distinct pyosalpinx with the tube behind the uterus, its purulent contents below its uterine extremity, incapable of being drained into the uterus. In those two conditions one should not temporize, but should operate at once, and check progress toward a worse condition. Other treatment than by laparotomy would be likely to do harm, while it could do no good.

In obstetrics he thought physicians were likely to use the forceps too soon; that is, where they were not really indicated. Often where these instruments were applied version would answer a better purpose. The diameters of the pelvis should be carefully measured before resorting to the forceps; if contraction existed, and the head had not engaged, version would prove more conservative than the use of the forceps. But when the cervix had dilated and the head had engaged, if delivery did not take place within half an hour it was his custom to put on the forceps. It spared the woman pain and also the complications to which Dr. Emmet had referred.

Dr. Collyer said he had seen some cases at the dispensary, with symptoms due to dysmenorrhœa, which evidently might have been cured by curetting, and perhaps otherwise treating the endometrium, yet they had fallen into the hands of enthusiastic laparotomists in the beginning of their career and had been subjected to removal of the tubes and ovaries. One case was that of a woman

suffering from dysmenorrhœa, who had retroflexion and some enlargement of the tubes, whether a hydrosalpinx or a pyosalpinx he was unable to say. She consulted many surgeons at their offices, who advised laparotomy, yet she recovered under the use of glycerine tampons, galvanism, and subsequent use of Cutter's pessary. She had then been free from pain two years. He had seen other cases of retroflexion with adhesions, and enlargement of both ovaries and tubes, in which conception and the birth of a healthy child afterward took place. In one of those cases the pyosalpinx originated in a gonorrhœa. In obstetrics he had seen many cases of injurious consequences follow delay in the use of the forceps, and some from misapplication of the forceps, the physician being ignorant even of the kind of presentation.

Dr. H. J. Boldt had been much pleased with the paper of the evening. It recalled to mind one which he had written some time ago, in which he took about the same ground. He held that it was wrong to remove the tubes and ovaries, although the tubes were distended, unless three or four months' treatment failed to produce any benefit, the patient continuing to grow worse rather than better. It was impossible to say at the operating table that the condition present was simply one of catarrhal salpingitis; it could be determined only by a pathological examination. In pyosalpinx a cure could not take place unless the extremity of the tube was patent. It was not right to jeopardize the life of the patient by postponing an operation when one had become convinced that the tube contained pus and was closed. If pathogenic micro-organisms were present in the tube, if the condition were an active one, any delay would subject the patient to the dangers of rupture into the abdominal cavity. As long as pus escaped into the uterine cavity laparotomy should not be done, but he had seldom seen such cases. Where actual tumors of the ovary existed an operation should be done at once; they should never, in his opinion, be punctured through the vagina. He quite agreed with the author regarding the treatment of parametric conditions, such as adhesions with displacement. But there was no one mode of treatment which could be regarded as a panacea for all cases.

Dr. A. P. Dudley said he appreciated the paper, for he believed in conservatism himself, yet he had perhaps operated pretty often for a young man. In the figure of the turning of the tide, he said he thought it was getting full of experience and was moving more slowly. The key-note in the paper really was one of diagnosis and differential diagnosis. He believed he had seen tubes and ovaries removed many times in the past when they should not have been sacrificed. He was not yet convinced that there was nothing in the idea of pelvic cellulitis; that there might not be a swollen condition around the tube while the tube itself remained comparatively healthy, and that conservative treatment would relieve the patient and enable her to bear children. But he felt assured that where pyosalpinx existed, necessarily with some adhesion at the fimbriated extremity to permit the dilatation, the patient would never be likely to conceive. He did not think that the comparison instituted by the author between epididymitis and pyosalpinx was at all applicable to the argument, for the conditions in the two localities were entirely different. In woman adhesive inflammation was likely to take place among organs which would subsequently give rise to most aggravated symptoms. The indications for removal of the tubes and ovaries mentioned by Dr. Grandin were well founded, and the question reduced itself to one of diagnosis and differential diagnosis. An important work for postgraduate schools was to teach men to recognize the condition present. Like Dr. Grandin, he had been thirteen years getting together about seventy-two abdominal sections, and it seemed to him want of conservatism was manifest when quite recent graduates were able to report a larger number. In all his cases, however, he had found sufficient disease to more than warrant the operation. The patients were nearly always first subjected to the treatment described by Dr. Emmet. The author had said that frequently patients were not benefited by the operation, and Dr. Dudley thought one chief reason for that fact was the custom, especially in the past, not to move the bowels for some days after the operation. This allowed adhesions to take place, giving rise to intestinal and other symptoms. He now uniformly moved the bowels within the first twenty-four hours, and refused to give morphine.

Dr. R. A. Murray believed in conservatism in surgery, especially abdominal surgery, but he feared too many had learned to aspire after brilliant results rather than good results unattended by mutilation, when the latter could not be brought about except by patience and labor. Moreover, that which required time was not likely to be submitted to by the patient. Much had been said about laparotomy being done too frequently, but it had certainly taught one important lesson, namely, how best to do it and the little danger which attended it. As Dr. Dudley had said, the key-note to the whole discussion was one of diagnosis. It was very easy to make a mistake in diagnosis in abdominal conditions. Even the most expert had sometimes said they would assert what was in the abdomen after they had opened it, but not before. There might be cases in which that statement was proper, but generally it was quite inexcusable. There was a field for conservatism which had received too little attention, namely, prophylaxis. Many cases in which abdominal section had been made might have been prevented by the correct management of labors and abortions, gonorrhœal inflammations, endometritis, etc. The greatest advance in the future would, he thought, relate to the proper treatment and early cure of acute inflammations before adhesions and chronic conditions resulted. Here much would depend upon the general practitioner, since it was for chronic conditions that patients usually came to the specialist. A radical operation, however, was sometimes in the highest degree conservative, and was indicated in conditions mentioned by Dr. Grandin and other speakers.

Dr. McLean, in closing the discussion, expressed his appreciation of the honor conferred in the presence of Dr. Emmet, and of his remarks, which, as always, were to the point. Nothing in his paper should be construed to mean that he was otherwise than fully in accord with his views regarding the cause and prevention of vesico-vaginal fistula. In general, he quite agreed with the remarks of the other gentlemen, but he would like to ask Dr. Boldt how often he had seen fatal peritonitis from rupture of the tubes. The accident, he believed, occurred so seldom that the fear of it should not be made the excuse for so frequent abdominal section where conservative measures might have spared the tubes and ovaries.

If the conditions of those organs present in many specimens which had been exhibited at the societies in the past demanded their removal, he believed that four-fifths of the women of to-day were fit subjects for ovariotomy. How was it, he would ask, that the accidents to which these women were said to be liable so infrequently occurred in the past when laparotomy was seldom performed?

Dr. Boldt replied to the question, that he had himself operated in four cases for peritonitis due to rupture of a pyosalpinx, and had seen two other cases not operated upon; two years ago he attended an autopsy at the New York Hospital by Dr. Ferguson, who said the fatal peritonitis was due to rupture of a pyosalpinx. He knew also of two or three other cases. With regard to what became of so many of these cases in the past, he said they were called cases of idiopathic peritonitis.

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There is no time when a hospital manager feels his importance more than when a respectable medical man begs him for his vote to obtain a position on the medical board. Yet every medical man must do it, and every manager's head swells accordingly.

# Correspondence.

## OUR LONDON LETTER.

(From our Special Correspondent.)

THE ELECTROLYTIC TREATMENT OF URETHRAL STRICTURE —EROSIONS OF THE OS UTERI IN MONKEYS, AND THEIR PATHOLOGICAL RELATIONS TO CANCER IN HUMAN FEMALES—THE RECENT SESSION OF THE GENERAL MEDICAL COUNCIL—DESIRABLE REFORMS IN THE METHODS OF REGISTRATION OF DEATHS—MEDICAL CASES IN THE LAW COURTS.

LONDON, December 7, 1889.

AT the last meeting of the Medical Society of London, a discussion took place on the treatment of urethral stricture by electrolysis. The general tone of the discussion was far from favorable to the electrolytic method. The subject was introduced by Mr. Bruce Clarke, who read a paper in which was embodied his experience of the method for four years and a record of fifty cases. It was extremely necessary, he said, that the surgeon should be master of his apparatus, as electricity was a dangerous remedy in unskilful hands. He argued that the process was not in reality a destructive one, but consisted in modifying and softening the cicatrices by which the strictures were produced; this could be witnessed by anyone who would take the trouble to treat thus a stricture of the urethral orifice. Mr. Bruce Clarke then explained the details of the treatment. He thought some of the cases could not be explained merely on the theory of absorption. He mentioned one case where an ulcer was present and electrolysis produced a rapid cure. Just as a rectal stricture might begin by spasm of the muscular fibres, so urethral stricture could, and often did, begin similarly—an irritable ulcer being the starting-point. Caustic alkali was set free by the negative pole of the battery and cured the ulcer—thus relieving the muscular spasm; if it failed to cure the ulcer, it might, in rare cases, aggravate it and make the stricture worse, and instances of this were narrated. Of the 50 cases of urethral stricture treated by electrolysis, 23 were known to be well after periods varying from one and a half to three years; in 2 cases no relapse had taken place after four years; only 9 were known to have required subsequent treatment.

Mr. Reginald Harrison opened the discussion on Mr. Bruce Clarke's paper, and remarked that he had seen a number of cases which had been submitted to electrolysis in this country and in America, but none of them had increased his regard for the method. The amount of thickening that had taken place in these cases was considerable, but he was not prepared to say whether this was incidental to the stricture or to the treatment employed. He much preferred gradual dilatation, and had had no reason to complain of want of success by this method. Mr. Harry Fenwick observed that in twenty cases in which he had tried the electrolytic treatment they were all considerably worse after the treatment. He considered that the only forms of stricture amenable to electrolysis were those in the deeper part of the urethra associated with spasm. He concluded by quoting the remark of an American practitioner, viz., "that the brilliant results said to have been obtained by electrolysis of stricture depended upon the credulity of the patient and the ingenuousness of the practitioner, or possibly upon some fortuitous act of providence upon which it would not be safe to count." Mr. Lockwood asked Mr. Bruce Clarke whether he adopted the precaution of relieving the more anterior strictures before dealing with those further in. Dr. Routh asked what pole had been used to the stricture. When the electrical current was applied to the uterus, his own experience was that the negative pole dilated the uterus, while the positive tended rather to contract it. Mr. Bruce Clarke then replied. He insisted upon the great attention to technical details which was necessary to insure satisfactory results, and said he was disposed to attribute most of the non-successes to either want of knowledge or want of the requisite attention. The method, moreover, was only applicable to certain cases. He would have been glad to know how far these strictures began as spasmodic strictures. He always used the negative pole with a strength of from five to ten milliampères.

A research which promises to have important results was brought before the Pathological Society at their last meeting. Messrs. Bland Sulton and Gordon Brodie (who made the communication) said that they had for some time been accumulating material for an investigation of cancer, especially in connection with the uterus. It appeared that uterine cancer, though so common in the human female, was rarely met with in other mammals. This induced them to study the cervix uteri in monkeys. Menstruation in monkeys was carefully studied. Last summer a macaque was particularly watched. It suffered from leucorrhœa and menorrhagia so profuse as to render it unfit for exhibition. Being of small value, it was killed. The uterus was found to be acutely retroflexed; the cervix was enlarged, the os patulous, and a florid-looking mass projected from the os identical in appearance with what was termed in gynecology an erosion. Sections of the parts were examined microscopically, and under a low power the mass protruding from the os, as well as a polypoid mass some distance up the canal, resembled a cervical adenoma, and appeared to be identical in structure with the glandular tissue held to be characteristic of erosions in women, the acini being apparently lined by columnar epithelium. Many of the most typical acini were filled with a singular, apparently homogeneous, material. Under higher powers and careful illumination the supposed columnar cells were seen to be club-shaped, and in favorable sections the supposed glandular crypts turned out to be rosettes fringed with the clubs so characteristic of actinomyces. The clubs varied somewhat in shape. Many of them fringed the rosettes with the greatest regularity; in other places they occurred in "banana-like" bunches, especially when stained with fuchsin. The clubs surrounding the rosettes stained with difficulty. In some places a cluster of clubs had been cut transversely; in such, a characteristic mosaic was produced. They could not detect the filaments, but this was probably due to their lack of skill in staining methods, but a number of granular bodies presented themselves in various parts of the section. Thus far the microscopic characters were consonant with actinomycosis. On examining the centre of the rosettes, some distinctly rounded bodies caught the eye, associated with clumps of epithelioid-looking cells; when these central bodies were critically examined they resolved into cysticerci with the head and neck retracted. Whether their presence in the midst of the rosettes was accidental or otherwise, would require further elucidation; so far as they had examined the sections, the cysticerci appeared to have some causative relation to the rosettes. Messrs. Sutton and Brodie stated in their communication that, although they wished at first to limit this preliminary statement to facts connected with monkeys, they could not refrain from observing that they had detected, so far as the rosettes and clubs were concerned, exactly analogous conditions in erosions from the human cervix uteri, and in a case of cancer of the cervix. They further found that Dr. John Williams, in one of the plates illustrating his "Lectures on Cancer," had depicted, as appearing under a high power, cancer cells, but they found these columnar cells identical with their clubs, and the peculiar clump of cells in the drawing was identical with those seen in the monkeys in association with the cysticerci. Again, in the beautiful plates in vol. xxxii. of the Pathological Society's Transactions, they found that Mr. Harrison Cripps had accurately delineated clubs and rosettes under the name of adenoid cancer of the rectum. Many of his exquisite drawings represented the microscopical characters of the lesions in their monkeys, and in the erosions of women. They deemed it right to men-

tion these things to show how wide a field was opened up.

I referred some time ago to the conduct of the Medical Battery Company in relation to the Zauder Institution purchased by them. The vagaries of the so-called Medical Battery Company have engaged the attention of the Medical Council at their recent session, with the result that the medical officer of the company (Mr. Leeson) has had his name struck off the Medical Register for having acted as a "cover" to Mr. Harness, who represented himself as the consulting medical electrician to the Company, but who, it was alleged, practised as if he were a duly qualified medical man. Within the last year or two the Council has displayed unusual activity in dealing with various irregularities, and especially in regard to the "covering" of unqualified men by legally qualified practitioners. At their recent session, however, they sanctioned the restoration of two names to the Register which had been expunged therefrom. Among the subjects discussed at the Council's session was the registration of midwives and of trained nurses; but perhaps one of the most important subjects brought before the Council was in regard to the present system of the registration of deaths. Dr. Glover brought forward a motion to the effect that the Government be requested to issue annually to every registrar of births and deaths a copy of the Medical Register, so that the registrar could ascertain whether the person certifying the cause of death was a registered medical practitioner. This motion was agreed to, as was also another brought forward by Dr. Glover, which was to the effect that the Registrar-General be memorialized by the Council to cause the forms of certificates of the cause of death to be numbered, and to instruct registrars, in issuing them to applicants, to ascertain that the latter were registered practitioners, and to keep a record of the number of certificates given to each applicant.

Two cases of interest to the profession have just been decided in the law courts. In the one, a medical practitioner, sued for damages for the alleged wrongful giving of a certificate in lunacy, was able to stay proceedings under a clause of the new Lunacy Act, and thus avoid enormous trouble and expense. The other case was one in which a provincial parish doctor sued a local newspaper for libel, for having attributed to him heartless conduct for refusing to see a child without an order from the relieving officer. Evidence was given that the position of the mother was not that of a pauper. The jury awarded the doctor twenty pounds damages.

## CIVIL SERVICE EXAMINATIONS FOR PHYSICIANS.

To the Editor of The Medical Record.

SIR: In Dr. Dawbarn's letter to THE MEDICAL RECORD of December 7th, the following sentence occurs:

"The first Civil Service examination for permanent positions for medical men, ever held in New York, I believe, was that of February 3 and 4, 1885."

The first held was in October, 1884, as will be seen from the following quotations from the Annual Report for 1884 of the Hudson River State Hospital for the Insane. These quotations further show that whatever may be the iniquities practised by the political managers of such examinations in the cities of this State, the methods of the State Civil Service Commission at that date, both as regards appointments of examiners and fairness of dealing were above reproach:

"The competitive examination was held at the Academy of Medicine, in the city of New York, beginning October 20, 1884. The Examining Board was constituted as follows: Dr. Stephen Smith, State Commissioner in Lunacy, Chairman; General Silas W. Burt, Chief Examiner of the Civil Service Commission, conducted the personal examination of the candidates; Professor Henry Drisler, of Columbia College, prepared the examination paper on General Education; Drs. James R. Leaming and Darwin E. Hudson that on General Medicine; Dr. Allan McLane Hamilton that on the Anatomy, Physiology, and Pathology of the Nervous System; Dr. Theodore H. Kellogg that on Insanity; Dr. A. N. Bell that on Preventive Medicine; Dr. Stephen Smith, for Dr. Lewis Balch, that on Surgery; Dr. A. E. MacDonald that on Hospital Administration."

"Soon after the conclusion of the examination a communication, dated October 28th, was received from General Burt, Chief Examiner, as follows: 'I had hoped to give some definite intelligence concerning the recent examination before this, but we have to await the convenience of the examiners, who are physicians in large practice and cannot be hurried. Of the sixteen applicants there appeared thirteen, and of these only eleven went through the whole examination, which occupied three days, the greater part of the last one being devoted to a personal test of the applicants at Ward's Island Asylum, by Dr. MacDonald. I inclose a set of all the papers used, except a short one by Dr. MacDonald, at Ward's Island. I think the examination was rigid, and, as the first effort of the kind, will be very satisfactory. Dr. Smith thinks that at least two will be of superior standing. I will acquaint you with the result as soon as all the examination papers are marked and reported.' Under date of November 13th, Mr. Clarence B. Angle, Secretary of Civil Service Commission, writes to Colonel Amasa J. Parker, Jr., President of the Board of Managers: 'I have the honor to transmit herewith a certificate of the candidates on file as eligible to the position of first assistant physician in your institution. I also inclose a statement of the standing of such candidates upon the several obligatory and optional subjects of examination, and also their original application papers. Should your honorable body desire any other information on file with the commission, I shall take pleasure in responding to your requests.' The *minutes*, as furnished by General Burt, of competitive examination for the position of first assistant physician in the Hudson River State Hospital, giving the standings on the several subjects of the two competitors who passed above the minimum standing, show the highest markings to be for Dr. Frederick Peterson, of Buffalo, N. Y. Dr. Peterson's markings are as follows: *Obligatory subjects:* General Education, 86; General Medicine, 92; Physiology, Anatomy, and Pathology of the Nervous System, 100; Insanity, 75; Preventive Medicine, 75; Surgery, 85; Administrative, 62. *Optional subjects:* Microscopy, 100; Latin, 60; German, 91; Swedish, 70; Translation from French, 70. The relative weights given to the obligatory subjects respectively were the following: General Education, 3; General Medicine, 3; Anatomy, Physiology, and Pathology of the Nervous System, 4; Insanity, 5; Surgery, 2; Administrative, 3; total, 20. The standing of a candidate is reached by the following method: The marking of every examination paper is multiplied by the given weight of the corresponding subject. The results are added and the product divided by the sum-total of the weights. The quotient gives the average standing on the whole examination. The standing of Dr. Peterson was 82.20."

As a result of this examination I was appointed permanently to the position (resigning January 1, 1888). For some months before October, 1884, the competitive examination was advertised extensively in several New York daily papers and in THE MEDICAL RECORD. At the time of the examination I did not know who the examiners were, nor had I any acquaintance with any manager or officer of the Hudson River State Hospital, or any political influence whatever. I was deeply impressed with the perfect equity in the conduction of the whole affair. Besides the above quotations, the Annual Report referred to published also the whole series of examination papers. This was Civil Service appointment in the highest sense of the term. Very truly yours,

FREDERICK PETERSON, M.D.

201 WEST FIFTY-FOURTH STREET.

To the Editor of the Medical Record.

Sir: My attention has been called to the following paragraph, clipped from your issue of December 7, 1889:

"... Dr. A B C, a former student of mine, did not, until after the fact, hear of the examination held this summer for the 'Summer Corps' of physicians to assist the regular corps of the Board of Health. He was but a day or two late, and determined to try political influence. In this he was successful, *for a well-known city official, of his own language and religious belief, procured for him a copy of the questions, which he answered at his leisure at home, and doubtless to his own satisfaction.* His paper was then duly handed to his political friend, was slipped in among the other papers, and in a short time he received his appointment as a member of the 'Summer Corps,' in which he remained throughout the season. . . . .

(Signed) "Robert H. M. Dawbarn, M.D.

"345 West Fifty-sixth Street, New York."

Will you kindly permit me space to characterize this statement as utterly false.

Respectfully yours,

G. K. Ackerman,

*Secretary and Executive Officer.*

New York City Civil Service Boards, Cooper Union, New York, December 16, 1889.

## HOW TO PREVENT AN EPILEPTIC WHO FALLS IN THE STREET FROM BEING COMMITTED AS A DRUNKARD.

To the Editor of The Medical Record.

Sir: John Wiesler, 606 East Fourteenth Street, an inoffensive, sober, poor workingman, is epileptic.

Twice he happened to have an attack of his disease in the street; each time he was arrested, and, on the erroneous charge of drunkenness, first fined ten dollars, the last time sent to Blackwell's Island for ten days. He served this term from September 4, to September 14, 1889.

Punishment for epilepsy!

The man speaks German only, and had certainly no opportunity to explain himself or to communicate with his wife and child while he was under sentence.

I have learned that the experience of John Wiesler is also the experience of other epileptics of this city.

This rough handling of an unfortunate by a policeman, and the punishment inflicted by a police justice, reminds us of some of the customs of the middle ages.

From what I have seen myself, and what has been seen by others with whom I spoke on the subject, it appears that some policemen, when they find a person unconscious on the street, never think for a moment that there could possibly be any other cause of unconsciousness but drunkenness.

This should be remedied; there should exist precautions against such revolting errors of police and police justices, and, I think, above all, it is each and every physician's duty to assist in finding means to that purpose.

I wish to suggest that medals should be distributed, to be worn by epileptics; these medals should be familiar to every policeman; there should be a certain mode of attachment and a certain part of the body where they would have to be looked for (for instance they might be attached to a rubber band around the neck—like the checks of valuables in the surf-baths), and by means of these medals policemen would be enabled to distinguish an unconscious epileptic from a drunkard.

In bringing the case of John Wiesler, through your columns, before the medical profession, I hope the crying wrong described will be noticed and acted upon by some of our societies, for instance the Medico-Legal Society.

A. Rose, M.D.

208 Second Avenue, New York.

The Vanderbilt clinic is as bitterly complained of by practitioners on the west side of town, for treating patients who are able to pay, as is the Presbyterian clinic on the east side.

# Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 8 to December 14, 1889.*

Hall, John D., Major and Surgeon. Leave of absence granted for ten days, to take effect upon being relieved from duty at Fort Niagara, N. Y. Par. 4, S. O. 285, A. G. O., Washington, December 7, 1889.

Carter, Edward C., Captain and Assistant Surgeon. By direction of the Secretary of War, will be relieved from duty at Willet's Point, N. Y., upon the arrival at that station of Major Clarence Ewen, Surgeon, and will then proceed to Fort Walla Walla, Wash., and report in person to the commanding officer of that post for duty, reporting also by letter to the commanding general, Department of the Columbia.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending December 14, 1889.*

Ross, J. W., Surgeon. Detached from Navy Yard, Pensacola, Fla., and placed on waiting orders.

Kite, I. W., Assistant Surgeon. Detached from Naval Hospital, Philadelphia, Pa., and to Navy Yard, Pensacola, Fla.

Rogers, B. F., Surgeon. Ordered to special duty at Norfolk, Va.

Leach, Philip, Passed Assistant Surgeon. Ordered to duty at Naval Academy, Annapolis, Md.

# Medical Items.

Contagious Diseases—Weekly Statement.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 14, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 21 | 7 |
| Scarlet fever | 71 | 5 |
| Cerebro-spinal meningitis | 2 | 3 |
| Measles | 55 | 3 |
| Diphtheria | 118 | 28 |
| Small-pox | 0 | 0 |
| Variola | 1 | 0 |
| Pertussis | 0 | 0 |

Cooling the Body by Spray.—Dr. S. Placzek, following up some laboratory experiments by Preyer and Flashaar, on the effect of spraying a considerable part of the body surface of animals with cold water, has applied the spray for the purpose of reducing febrile temperature in human beings. In the case of a man suffering from phthisis, whose temperature was high, he found that by spraying about a pint of water at between 60° and 70° F. over his body, the temperature fell to normal, and continued so for several hours. Again, a similar method was satisfactorily applied in the case of a girl with diphtheria. In the healthy human subject the spray lowered the temperature nearly 2°, and in animals which had been put into a condition of septic pyrexia by injections of bacteria, the temperature was reduced to normal by the spray.—*Lancet.*

Preventive Inoculation for Yellow Fever.—The following report was presented to the Academy of Sciences, France, by Dr. Domingos Freire, Professor of Organic Chemistry and Biology in the Faculty of Medicine of Rio de Janeiro, Brazil: "The epidemic of yellow fever that developed in Rio de Janeiro in 1888 and 1889,

and which propagated itself in several other places in the interior of Brazil, has been the means of demonstrating for the fourth time the value of inoculations by means of the attenuated microbe of yellow fever. The maximum of the epidemic was between the months of December and March, the first sporadic cases having appeared about the end of the month of May, 1888, and the last in June, 1889. During this period there were inoculated 3,570 people, to wit, 988 strangers and 2,582 Brazilians, divided thus: The city of Rio, 2,138; city of Campinas, 651; town of Vassouras, 199; city of Nicteroy, 166; city of Santos, 133; Desengano, a village of 425 inhabitants, 102; Serraria, a small town, 80; city of Rezende, 54; Cataguazes, a village of 2,000 inhabitants, 50. The disease swept with great intensity in all of these spots, and the vaccinations were made, for the most part, during the height of the epidemic. Of the 2,582 Brazilians, there were 1,740 that should be added to the 988 strangers, as this figure embraces not only individuals coming from the interior and resident in the city of Rio for less than six years—that is to say, non-acclimated—but also children, who, according to our experience, are just as susceptible as the strangers themselves. The rate per hundred of mortality among the vaccinated was 0 078; at Santos, at Rezende, at Serraria, and at Cataguazes, the immunity from the disease was absolute. Here is the rate per cent. from each locality: Rio, 0.98; Campinas, 0.46; Vassouras, 0.05; Nicteroy, 0.75; Santos, 0.00; Desengano, 0.09; Serraria, 0.00; Rezende, 0.00; Cataguazes, 0.00. The mortality from yellow fever among the non-vaccinated was 4,135, divided thus: City of Rio de Janeiro, 2,407 (this includes the dead from the Marine Hospital); Campinas, 812; Vassouras, 15; Nicteroy, 177; Santos, 650; Desengano, 221; Serraria, 21; Rezende, 11; Cataguazes, 20. Among the 4,135 there were about 2,800 strangers, of whom 1,176 died in Rio (and 750 of these in the Marine Hospital), 63 at Nicteroy, 500 (about) at Santos, 300 (about) at Campinas, 7 at Desengano, 3 at Rezende, 3 at Vassouras. Thus one-fourth of the deaths were among Brazilians who were unaccustomed to the poison, inasmuch as they resided in localities where the epidemic appeared for the first time this year. In order to make the efficacy of the inoculations more marked, it suffices to remember the proportion established by M. Jemble in Senegal, to wit, that among the strangers who had been there from one to three years, 75 per 100 were attacked by yellow fever, and 68.06 per hundred died. Applying these facts to the vaccinated strangers, or the provincials who had from a few days to three years' residence in the infected locality, we obtain the following results: At Rio we vaccinated 1,183 people under the above conditions, of whom at least 591 should have succumbed to the disease, but only 18 died. Thus 573 lives were saved. At Campinas, a city that never before had an epidemic of yellow fever, and where the 651 inoculated might be considered as new arrivals, of whom 325 should have died, the unsuccessful inoculations were but 3. At Vassouras, 5 should have died; one only died, who was not a recent arrival. At Nicteroy the 11 strangers, under the conditions cited above, should have furnished five deaths; one only was a victim. At Santos, of 57 persons under the same conditions, 28 should have died, but the immunity from disease was absolute. At Desengano, the two unsuccessful inoculations were among strangers who had lived from six to eight years in the country. But in view of the fact that the disease obtained for the first time, all of the 102 persons inoculated were as susceptible as strangers who had just arrived. Among them 51 should have died. At Serraria, according to the main calculation, 39 should have died, whereas the immunity from the disease was absolute. The same reflections apply to Rezende, where the 54 vaccinated should have furnished 27 deaths, and at Cataguazes, where the 50 vaccinated should have furnished 25 deaths, in view of the fact that the epidemic made its first appearance in these two localities; still the immunity was perfect, without exception.

"*General Résumé.*—We have vaccinated, since 1883 to 1889, 10,524 people, with a mortality of 0.04 per hundred.

| | | |
|---|---|---|
| Vaccinations made in | 1883–84 | 418 |
| " " | 1884–85 | 3,051 |
| " " | 1885–86 | 3,473 |
| " " | 1888–89 | 3,582 |
| | | 10,524 |

"I had to cease vaccinating in 1887, owing to my trip to Europe and in the United States. The mortality from yellow fever among the non-vaccinated, during the four epidemics mentioned above, was close on to seven thousand. Let us add, in closing, that all the results given have been authenticated by a large number of medical men, and municipal and police authorities. The vaccinations were made without fee. This succinct statement proves, without question, the truth of all the doctrines founded by our eminent master, M. Pasteur."

DIAGNOSIS OF CEREBRO-SPINAL MENINGITIS BY PUNCTURE OF THE LIVER.—Dr. C. Bozzolo reports a case of cerebro-spinal meningitis, in which the diagnosis was assisted by bacteriological observations made on the fluid obtained by puncturing the liver. A man, aged fifty-four, who had been ill for five days previously, was admitted into the clinic at Turin suffering from feverishness, pain in the right side of the neck, jaundice, enlargement of the spleen, painful enlargement of the liver, bronchitis, and albuminuria. A rigor occurred more than once. Except the pain in the neck and vomiting, no symptom whatever of meningitis existed. Six days after admission the patient died, having been slightly delirious for the previous forty-eight hours. Diagnosis being difficult, the author had on the fourth day after admission made an exploratory puncture of the liver, which was still painful. The blood extracted showed by cultivation and after experiments on animals the existence in it of Fraenkel's diplococcus of pneumonia. This result, in the absence of pneumonic and pleuritic symptoms, with the existing pains in the neck and vomiting, encouraged Bozzolo to diagnose meningitis, a diagnosis which was confirmed by the post-mortem examination. In addition to the morbid changes in the meninges, gall-stones and acute endocarditis were found.—*Lancet.*

ANTIPYRIN HABIT.—To the already long list of drugs, the use of which, under proper restrictions, is both beneficial and proper in combating the various ills to which flesh is heir, but whose abuse becomes a curse to humanity, another has recently been added. Scarcely have we learned to properly use antipyrin than the tocsin of alarm must be sounded against its abuse. The recent discovery of its value as a nerve-tonic places it on the list with morphine, chloral, cocaine, etc., so seductive is its gentle, soothing influence upon the overstrained nerves. Its victims are already found, especially among society women, whose nerves, strung up to a high pitch by the overwhelming demands of a winter season of gayety, seize eagerly upon anything that will afford relief from the headaches and other disorders arising from prolonged fatigue and overtired nerves. So pleasing is the effect that it is soon used for every trifling ill feeling, until the patient finds herself unable to live without it, and the fascinating "antipyrin-habit" is formed. Properly used as a nerve-tonic, its effects are admirable, but *abused*, the victim becomes even more hopelessly entangled than the morphine or cocaine victim. The effects vary with the dose. In large doses it produces complete relaxation with loss of reflex action. In moderate doses, continued, it induces convulsions. As a stimulant its effect is much like that of quinine.—*International Dental Journal.*

THE AMERICAN ACADEMY OF MEDICINE has so amended its constitution as to permit the Academy to admit as members those of the profession who have pursued courses of study calling for an equivalent of mental training to that necessitated in the securing the degree of A.B.

# The Medical Record

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## Original Articles.

### CARDIAC THERAPEUTICS.[1]

BY JOSEPH M. PATTON, M.D.,

CHICAGO, ILL.

DIVIDING diseases of the heart into those which are acute in their course, and are accompanied by the usual manifestations of acute diseases, and those which are slow in development and chronic in nature, and which are, as a rule, secondary to some acute condition, we have in the latter those which demand most often our attention, both as to diagnostic ability and therapeutic skill. It is to the latter that I wish to call your attention, and as the orifices of the left heart enjoy almost a monopoly of the diseases so catalogued, it will facilitate matters to consider, in turn, the conditions which may present through disease of the aortic and mitral valves and their therapeutics.

An intelligent consideration of the treatment of these conditions implies a concomitant study of the pathological condition involved, as without a knowledge of the pathological changes, and the sequence of their production, the scientific application of the more important remedies cannot be made.

The affections of the aortic valve appear later in life, as a rule, than those of the mitral; the latter are more often due to endocarditis, while aortic disease is generally due to atheroma, arterio-sclerosis, and like conditions giving rise to changes in the aortic ring and valves.

Stenosis of the aortic semilunar valves is the most favorable of all valvular lesions, from a prognostic standpoint. It may exist for years without the necessity of medicinal aid, at least so far as the heart itself is concerned; the simple hypertrophy of the ventricle relieves the condition, and until this becomes excentric the heart is not in need of aid so far as its pumping powers are concerned.

With insufficience of the valve it is different; the hypertrophy here is excentric from the beginning, and while cases are recorded where regurgitation alone, or in connection with stenosis, existed for years in laboring men without serious difficulty, still rupture of compensation occurs quicker in insufficience, because of the constant intra-ventricular pressure during diastole caused by the additional stream of blood.

There are, however, symptoms occurring during the period of compensation, or hypersystolic state of Fernet and Huchard, which will demand relief. These symptoms are common to both conditions, but are generally more marked in regurgitation, because of the dilatation of the aorta which obtains through the larger volume of blood discharged, and the greater force given it because of the immense hypertrophy which develops in regurgitation.

Retardation of the circulation is effected in both instances. In stenosis the arteries are scantily filled, anæmia of the brain develops on slight exertion, syncope, fainting, dizziness, palpitation from nervous excitement.

In regurgitation the pulse is bounding, a high-up stroke with absence of the dicrotic wave, a pointed summit, voluminous but maybe weak and irregular on slight exertion, the so-called Bellingham or Corrigan pulse. Passive hyperæmia of the brain and aortic system, dizziness, ringing in the ears, cyanosis, pain under sternum, along clavicle, and down the left arm, due, according to Peter, to inflammation of the cardiac plexus. Angina pectoris may occur. Loss of mental power, insomnia, or even insanity, may result from the condition of the cerebral circulation, as cerebral activity is in close relation to the condition of the circulation, as has been shown by Bernard and Mosso.

Patients with cardiopathies of this class with a rheumatic origin do well on the iodide of potash combined with the bicarbonate of potash, and generally take it indefinitely without trouble. Iron, attention to the nutrition, moderate exercise are necessary. Dujardin-Beaumetz relies on opium for the relief of cerebral anæmia and dyspnœa. Gubler states that the action of opium is due to the congestion it produces. Picard and Reathi think it acts on the cardiac ganglia, as its effect is manifest on the heart after section of the vagi. The relief afforded by other vascular dilators would correspond with the former theory. The cerebral symptoms would appear to result from lack of blood-supply through passive congestion, both in stenosis and regurgitation, and by vascular dilatation the blood-pressure is lowered and the heart, for the time being, keeps up the supply. The dyspnœa may be relieved in the same way, or by sedation of the cardiac plexus. Subcutaneous injection is the method recommended, but there are objections to this, unless it be in acute conditions like angina pectoris.

Nitrite of amyl by inhalation is useful as a vaso dilator, but its effects are very transient. Tri-nitrine, three to four drops of a one per cent. solution, or by hypodermic use, may be used in true or pseudo anginas.

Antipyrin has appeared as a remedy for angina pectoris, as it has for most everything else. Eloy says it is to be avoided in true angina, because of its injurious effect on the heart muscle, and because of the danger of dilatation. On the contrary, Professor Sée says it is perfectly safe, and very efficient in gramme doses, one hour apart, till four or five grammes are given, or in hypodermic injection half a gramme in distilled water, with none of the unpleasant after-effects produced by the hypodermic use of morphia.

Galvanism is of benefit in some cases of neuralgia or angina of cardiac origin.

For the paroxysmal dyspnœa and cardiac asthma bromide of potash is useful; cicutine, the alkaloid of conium maculatum, is also recommended. In the hypersystolic condition, with increased vascular tension, aconite is a valuable remedy; two drops of the tincture every three or four hours, followed by one drop three or four times a day, will give marked results in many instances.

With the occurrence of degeneration and rupture of compensation the demand for aid to the heart comes, while mitral disease is in many instances but a sequence of aortic trouble. Some writers would indicate that this condition, called by Fernet and Huchard the hyposystolic state, develops only when mitral disease has been added, and apply, therefore, the true cardiac tonics only to conditions resulting from mitral disease. Franck and Deborde claim that dilatation and hypertrophy of the left auricle is the factor in compensating aortic regurgitation, the blood being discharged into the ventricle with sufficient force to overcome the pressure in the ventricle. This assumes that it is necessary to have the above con-

[1] Read before the Chicago Pathological Society, October 15, 1889.

dition of the auricle in order to obtain compensation in aortic regurgitation; this I do not believe. As the auricular contraction takes place before the ventricular, I do not see how it can aid in compensating the ventricular dilatation. I believe that with the production of mitral regurgitation and auricular dilatation and hypertrophy, you have the beginning of the end. Objections have been made to the use of heart tonics in aortic stenosis, because they prolonged the systole; this is the effect desired. By prolonging the systole and increasing the force you get more blood through and postpone the development of an asystolic condition, and in regurgitation you enable the ventricle to empty itself and obtain the same result.

Cardiataxia may render the administration of these remedies necessary in aortic lesions uncomplicated by mitral disease, but the passive congestions which demonstrate heart-failure in mitral lesions are wanting, and while the indications for their use are the same, the necessity is not present to as great an extent.

I cannot accept the statement of some writers, that stenosis and regurgitation of the mitral orifice never occur separately; it is true that to stenosis is added insufficience, but stenosis may exist single for a long time. Regurgitation may exist indefinitely and cause death by cardiac failure without being complicated by stenosis. In stenosis auricular hypertrophy compensates and there will be little trouble except on exertion, where the rapid heart's action does not give the auricle time to empty itself. The auricle may succeed in freeing itself of blood with slow heart's action, and thus the pressure in the pulmonary circulation is not so constant as in regurgitation. In either instance, when the mitral valve is primarily affected, the compensation effected by the right heart obviates medicinal treatment until failure occurs. The systemic circulation calls on the left heart and moderate hypertrophy results; when mitral disease is secondary to aortic lesion it comes with compensatory failure, and the relief you can furnish is in inverse ratio to the amount of fatty granulo degeneration of the muscle-fibre.

In compensated conditions there are various rules to be followed, which are of more utility, when observed in time, than therapeutic measures; they apply alike to all conditions of compensated heart lesions. Out-of-door exercise should be had in moderation, all active exertions should be interdicted. Mountain-climbing has not been as well supported as might have been expected from the claims of its originator; it is no doubt of use when properly and carefully observed, but any exclusive method of training would probably result in harm in many cases. All professions and occupations entailing exposure and fatigue should be avoided. The diet should be nourishing and strengthening, the days of restricted diet for the limitation of hypertrophy are past.

All alcoholic drinks should be strictly forbidden. Tea and coffee sparingly or not at all. Tobacco should be absolutely forbidden. The most desirable climate is one of steady, uniform temperature, moderate, with a dry atmosphere, with an elevation of not over two thousand five hundred feet.

Baths of compressed air have been recommended by Lambert and Waldenberg, as a means of relieving the work on the heart; Ducrocq and Fontaine maintain that they are useless, or even deleterious.

An interesting question arises in relation to pregnancy and the cardiopathic state. Women with organic disease of the heart should seriously consider the question of marriage. The altered condition of the blood in the pregnant state and extra demand on the heart cause hypertrophy. In the normal heart this disappears after accouchement, but organic disease may be seriously aggravated. These patients are especially liable to miscarriage.[1]

In relation to abortion, mitral regurgitation is said to be most dangerous; the least dangerous is aortic regurgitation. Mitral constriction is less dangerous, as far as labor is concerned, than regurgitation, according to Sée.

Mothers suffering from cardiac lesions should not be allowed to nurse their children.

The medicinal treatment of the compensated state is nutritive tonics at the earliest sign of failure, with perhaps some of the sedative bromide in cases exhibiting a nervous temperament. Bromide of potash is the favorite salt; in many cases better results can be obtained from the bromide of sodium; the principal medicines to be used here are iron, quinine, strychnia, and arsenic. Lockie considers the latter a cardiac stimulant. The objection is made against iron, that its tendency to produce congestions should prohibit its employment; I do not believe it does injury in this way, and think the period of compensation may be much prolonged by its use. I employ a fresh carbonate of iron pill, or the tincture of the citromuriate with tincture of cinchona.

Attention to the state of the stomach and abdominal viscera is always an important element in treatment; the connection between the cardiac ganglia and the abdominal sympathetic ganglia, through the nerves of cyon and other connections, readily explains the effect on the heart of disturbances of the abdominal viscera.

Notwithstanding our efforts in these various directions, the time comes when something further must be done. In many instances the patient presents himself for the first time for the relief of symptoms occurring as a sequence to failure of compensation. Degeneration of the muscular fibre reduces the integrity of the muscle, and prevents it from longer resisting the blood-pressure, transforms simple hypertrophy into excentric, or in excentric hypertrophy allows of the extension of dilatation. This diminishes the pumping power of the heart, and gives rise to a series of symptoms indicative of the necessity for heart tonics.

The heart's action becomes labored on slight exertion, dyspnœa with slight cough, slight swelling of the feet and ankles at night, evidences of gastro-intestinal catarrh; on examination you find the action of the heart out of proportion to the tension of the vessels and condition of the circulation; the muscular element of the first sound is not clear and distinct, later on œdema at the base of the lungs develops. These symptoms, in a heart where compensation has sufficed for the requirements of the circulation, admonish you that the time has arrived for the employment of remedies which heretofore have been contra-indicated.

First, by right of seniority, is digitalis, this time-honored remedy still maintains its place at the head of the list of cardiac tonics. Withering employed it in the Birmingham hospital in 1775, and in 1785 published a work on it. Contradictory opinions have been given from time to time in regard to its action, but to-day all observers who have placed themselves under similar conditions of observation, agree pretty closely as to its action. Moderate doses slow the pulsations, increase their force, fulness, and regularity; the vascular tension is increased, as shown by Chauveau, Marcy, Siredy, Legroux, Gubler, and others through sphygmographic tracings, also by Briquet's hæmodynamometer. According to Sée, digitalis slows the heart by exciting the cardiac inhibitory nerves and ganglion, as the action is omitted if the vagi be cut. According to Cavazinini there is little action on the auricles, the ventricular tone is increased, with a secondary action on the vessels. Gubler, who has made extensive observations, says there is first a slowing of heart's action, doses too long continued produce irregular, intermittent heart's action, and cardiac exhaustion from prolonged stimulation. The best effects are obtained after some days of administration, and may remain some time after ceasing the drug. The chemistry of the drug has developed a so-called alkaloid, digitaline, which is rather a glucoside than an alkaloid, besides other principles and extractives.[1]

[1] Durosier reports 21 abortions or premature births in 41 cases. Out of 40 births from cardiopathic mothers, 37 died before six years.

[1] The amorphous digitaline of Quivenne and Homolle is extracted from the leaves, the German digitaline from the seeds. The digi-

The lack of definite chemical data in regard to these substances is a serious bar to their therapeutic employment. Digitaline may be used hypodermically. Gubler claims good results, using a five per cent. solution of amorphous digitaline in alcohol and water, and injecting about one milligramme. Powdered digitalis is not reliable; the tincture is the best form for action on the heart, the infusion when stimulation of the kidneys is desired. The particular valvular lesion originating the trouble is of little import in determining the necessity for its use; the comparative amount of hypertrophy and dilatation, and the integrity of the muscular fibre, are the conditions which determine the indications or contra-indications for its employment. Fatty heart, or granulo-fatty degeneration of the muscle fibre, are positive contra-indications, where the majority of the fibres have been subjected to this change.

Dujardin-Beaumetz says the failure of the drug to act in these cases constitutes a therapeutic test, and relates a hospital case in which it failed utterly and death resulted. The question naturally arises as to how much the digitalis had to do with the period at which the fatal result was attained.

It is certainly better to depend on our diagnosis of degeneration for contra-indication, than on experimental evidence obtained at the risk of the patient's life.

When degeneration is in excess, a veritable digitalis asystolia may result from its use. Moreover, the action of the drug in contracting the vessels throws more work on the heart, while no additional pumping force is furnished the organ.

James Stewart recommends for serious heart-failure rest in bed, forbids liquids, full doses of digitalis; if good results follow, diuresis is increased; if the amount of urine falls after increase by digitalis, the drug should be stopped; he gives forty minims of tincture four times daily during three days, but as much as half an ounce may be necessary.

According to Huchard, digitalis is of benefit in transitory asystole with venous stasis from asthenic conditions of vessels and heart muscle. Useless in compensated state. Harmful in hypertrophy with increased arterial tension, and in permanent asystole with embarrassed circulation, and irremedial fibroid changes of cardiac muscle. Cardiac arythmia to be treated by digitalis if due to valvular lesion; if due to myopathic, reflex, toxic, or nervous origin, is useless.

Stücker recommends ergot with digitalis in diminished arterial tension, aortic insufficiency, idiopathic dilatation, certain stages of arterio-sclerosis, and sometimes after violent bodily exertion. With increased arterial tension, as in chronic nephritis, with rapid and irregular heart's action, digitalis may not be safe, alone; lower the vascular tension with nitro-glycerine, or other nitrites; he thinks caffein may be better in such cases.

The combination of vascular dilators with cardiac tonics, has not received the experimental attention which so promising a theory deserves; it is recommended by Stücker, Da Costa, and others. The ideal cardiac tonic may yet be obtained, and the most efficient aid rendered the heart by this means.

It does not seem to me that the cumulative effects of digitalis, about which so much has been said, need interfere with its administration as much as has been claimed. If the case is a proper one for the drug, and the dose properly managed, it will seldom interfere in this manner. In most cases it is better to interrupt the administration for a few days every ten days.

The most serious trouble will be encountered through its irritating action on the intestinal tract, which in some instances will effectually prohibit its employment; recourse may then be had to some other drug of the same class, and the principal one of these is strophanthus.

taline of Nativelle is similar chemically to the amorphous, but much more powerful. Roucher's digitaline-globular resembles the amorphous. The German of Hosmann and Merck is less powerful than the amorphous.

Professor Fraser, of Edinburgh, furnished a journal article on strophanthus in 1885; the active principle he claimed to be strophanthin, its action on the heart in the frog similar to digitalis, but more powerful. The chief therapeutic difference being its failure to contract the blood-vessels.[1]

Various results have been obtained by other observers. Popper, through experiments on dogs, concludes that it increases arterial pressure by action on the heart, as it occurs if vaso-motor paralysis be previously produced, increased venous pressure is not constant, the vagi may be paralyzed, but the accelerator nerve remains intact.[2]

Whatever may be the direct method of its action, it is undoubtedly a useful cardiac tonic. I have used it in quite a number of cases, and while I am not prepared to rank it with digitalis, when the latter can be properly administered, I have not had any distinct failures with it, and have had much satisfaction in its use in cases which were not suited to digitalis.

One patient, a wood-turner by occupation, suffering from mitral stenosis, to which was subsequently added insufficiency with a dilated and hypertrophied auricle, with rapid and very irregular heart's action, was totally unable to take digitalis from gastric intolerance; it also seemed to increase the irregularity. At favorable times the auricular and ventricular contraction could be distinctly separated; on the slightest exertion the heart became irregular, with marked throbbing of the carotids, dyspnœa, cough, and gastric irritation from passive congestion.

Strophanthus, in ten-drop doses in laurel-cherry water, improved his condition so that he could perform his daily labor for over a year. Recently I was called to see him and found him in a very bad condition, unable to lie down or sleep; œdema of the legs, congestion of the liver with slight jaundice, and very weak irregular heart. He had not been taking the strophanthus regularly, and thinking that perhaps it had lost its effect, I gave caffein with benzoate of sodium, 7½ grains daily, which is highly recommended by Dujardin-Beaumetz in such conditions. No effect. I then gave the more soluble citrate of caffein, increasing his distress. He was also taking citrate of potash and buchu. I then determined to again try strophanthus, and gave twelve drops three times daily with immediate improvement, œdema disappeared, could lie down and sleep, feeling much better, the diuretics were also continued, with moderate catharsis.

I have at present a young woman with the same double lesion, who is taking seven drops three times daily, with improvement. The drug has seemed to me to be especially useful in mitral stenosis, or double lesion at the mitral valve. If its want of action on the vascular system should be proven in man, it would be a great point in its favor, and would make it useful in cardiac failure in pneumonia, typhoid fever, and kindred conditions.

Convallaria maialis was used as early as the sixteenth century for diseases of the heart. According to Sée, it augments vascular pressure, and the ventricular energy, is useful in palpitations, and cardiac arythmia, even if due to valvular lesions. He also claims that its diuretic powers are greater than those of any other cardiac tonic. Others regard it as a very moderate diuretic.

Caffein is particularly recommended by Dujardin-Beaumetz in asystolic conditions; I have not had marked success with it in such conditions; its action is similar to digitalis. Huchard regards it as a true cardiac tonic and diuretic in last stages, to be given with sodium benzoate in distilled water. Semmola has found caffein of great

[1] A solution of one part of digitalin in 20,000, when passed through the vessels of the frog, contracted them so as to prevent the passage of the solution. A solution of strophanthin, one part in 3,000, caused no noticeable change, and only a slight transitory action by a solution of one part in 2,000.

[2] Rummo and Ferranini claim that spartein and caffein affect the cardiac nerves and the muscle little, or not at all; adonidin and convallaramin, both the nerves and muscle simultaneously; while digitalis, strophanthus and its alkaloid affect the muscle primarily, and the nerves secondarily.

value in cardiopathies of bulbar origin and cardiac arythmia.

Spartein is hardly reliable in serious heart failure; in functional disturbances, in neurasthenic subjects, or where compensation is not seriously interrupted, it may be useful. Its action is rapid, but it is not always well borne by the stomach. From two to five grains daily may be given.

Adonis æstivalis, and adonis vernalis belong to the category of heart tonics, and are said to be good sometimes where digitalis fails. In the various other drugs, from which good results have been obtained are generally found the same or similar alkaloids which give to the above remedies their virtue.

Attention should always be given to the state of the abdominal viscera in treating heart lesions, and particularly the kidneys. I will not enter into a discussion of the indications for diuretics, cathartics, etc., but in many cases more can be accomplished toward removing œdema and effusions, and the many results of cardiac failure, by proper management of the secretions and excretions than can be done by the use of those remedies which affect the heart alone; and the judicious combination of this branch of therapeutics, with that applying to the heart, becomes of supreme importance in the management of the later stages of cardiac affections.

Contraction of the smaller arteries with increased arterial tension, is a condition often associated with cardiac disease; heart failure being directly due to this condition, which may also be associated with chronic congestion, chronic degeneration, and chronic inflammation of the kidneys—which conditions are well described by Delafield. The arteries may be slightly or considerably thickened, due to a more or less irregular increase of the tissue of the intima; the contraction may be spasmodic and temporary, or may be continued.

This condition may be due to direct irritation of the arteries by a pathological condition of the blood, or such a condition of the blood may disturb the nervous centres controlling the vaso-motor system; the cause is not quite clear. This condition is most often associated with aortic disease, and the association of aortic changes, general arterio-sclerosis, and chronic kidney changes, would indicate that some pathological state of the blood is the source of these various changes.

Vascular dilators are the remedies for this condition, and the efficacy of opium, as lauded by Beaumetz in aortic disease, is probably due to relief of arterial contraction as much as to any other action. I have had considerable success in relieving spasmodic intermittent attacks of heart failure in advanced heart disease through the use of opium.

I cannot take up more time by considering the kidney changes involved, but they are exceedingly interesting, taken in connection with the above condition, and should be carefully studied, as the amount of urea, albumin, and casts present or absent at various times, give valuable therapeutic indications.

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## THE PHYSIOLOGICAL ACTION OF TYPHOID FEVER POISON.[1]

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The only positive evidence of the existence of typhoid fever is the discovery after death of typhoid ulcers and signs of the accompanying catarrhal inflammation in the intestines. Except in rare cases, a diagnosis can be made during life without difficulty from the presence of the so-called "typhoid state" and the symptoms of the intestinal lesions.

While studying annually a rather large number of cases of this disease, the very considerable variation in intensity of some of the symptoms and variable existence of others has attracted my attention and called for explanation. For example, one of the most frequent variable symptoms is that of sweating. Often we see in the hospital patients lying side by side, suffering with equal severity in the same stage of the disease, the one bathed with a constant, profuse perspiration, and the other with a skin as constantly dry and hot; or, again, one will be in wild delirium, and the other stupid or semi-comatose.

The question then suggests itself, what symptoms are the result of the typhoid infection, and what the result of superimposed infection or of other causes? From a clinical study these questions can be answered only imperfectly.

Cases are recorded in which death has occurred from sudden intestinal perforation, the result of typhoid ulceration in persons who were not feeling ill until the fatal catastrophe occurred. It is evident, therefore, that typhoid inflammation of the intestines may exist without coincident and resulting typhoid intoxication. This necessitates distinguishing between the primary infectious agent causation of the disease, and what, for convenience, I term in this paper typhoid poison or intoxicant, which results usually from the development of the disease in the infected person. This fact of the occasional absence of typhoid intoxication in those infected can be explained in several ways: Either the intoxicant is eliminated as fast as manufactured or destroyed before gaining access to the nervous system and tissues generally, or it is not absorbed from its source. The typhoid poison is probably manufactured in the inflamed adenoid structures of the intestines, and possibly also within the intestines. In apyretic cases there is no evidence that absorption from the intestine or its walls is hindered. Elimination of poisons absorbed from the intestines takes place by the liver, or by organs in the circulatory tract more distant, such as the kidneys, lungs, and skin. Absorption of the typhoid poison we might, *à priori*, suppose would take place chiefly, if not wholly, by the lymphatics. Therefore it would be likely to be disseminated throughout the system and produce some general disturbance before it could reach the organs of elimination. It does not seem probable that the liver is the organ by which general infection is prevented, for what evidence we have points to a diminution of the eliminating power of this organ during an attack of the disease. I think we must conclude that in such cases the toxic principle is destroyed and rendered inert before absorption occurs, but in what way we do not yet know. It is also evident from these cases that the general symptoms, such as fever and tissue-waste, are not dependent directly and wholly upon the local inflammation in the intestines, but upon something that may originate from this inflammation. Considering this subject from a clinical standpoint, the physiological changes which occur with uniformity in all cases that present general symptoms must be regarded as due to the typhoid intoxicant, and such as are of variable occurrence as due to the superimposed infection or to changes in the susceptibility of organs.

All practitioners meet with mild cases and abortive ones. These are probably to be accounted for, as are the febrile cases, by supposing that the poison is partly destroyed, and that it finds its way into the general circulation in small quantities, or sometimes intermittently.

The most characteristic results of the disease are therefore the intestinal lesions, such as the diarrhœa that results from the catarrhal inflammation which accompanies the more characteristic typhoid inflammation of the adenoid bodies of the intestines; the hemorrhages which occasionally occur, and result from ulceration of the intestines; the perforation, which still more rarely occurs, and produces various forms and degrees of peritonitis.

Fever is the most characteristic of the effects common to all cases of generalized typhoid poisoning. It is undoubtedly due to the action of the toxic agent upon the

[1] Read before the American Academy of Medicine, November 14, 1889.

nervous system. It is generally said that the increase of bodily temperature is accompanied by, and grows out of, an increase of cellular metabolism, chiefly in the muscles and large glandular organs. This does not seem to me to express the whole truth. There is an increase of metabolic activity, but not of the usual or physiological type, for it does not result in the customary products of physiological metabolism, such as normal secretions from gland-cells or mechanical energy from muscles. Just what the chemical products of this fever metabolism are, and just how they differ from the products of physiological cell-activity, chemists have not yet told us. The most exact information that we have of the character of these changes is obtained from a study of the waste products of the system which are eliminated by the kidneys. In this way it has been shown that the nitrogenous elements of waste are eliminated in a comparatively imperfectly oxidized condition. Therefore, in the severest cases urea is excreted in diminished amount, and especially in diminished amount as compared to the total amount of nitrogenous matter eliminated. In milder cases, and in the majority, the amount of urea excreted is actually increased; but still, compared with the total nitrogenous matter, its proportion is small. Among these nitrogenous bodies we may surmise, with considerable assurance, that there are leucomaïnes.

These urinary changes have been most thoroughly studied and interpreted by Robin. Henocque has reached practically the same conclusion, *i.e.*, that oxidation is imperfectly accomplished, by a different method of inquiry, by the use of his hæmatoscope, which shows that the quantity of oxyhæmoglobin in the blood is diminished, and that the activity of its reduction is lessened. Flint has urged that water is normally formed in the system by oxidation, and that in fever the formation of water is diminished or suppressed. This view is based chiefly upon facts obtained from the clinical study of typhoid. If true, it, too, means that oxidation in the physiological manner is in typhoid diminished. But, as Regnard's experiments have shown, carbonic-acid gas is exhaled in increased amounts, and oxygen is taken up in still larger proportion, and is used, but more slowly than natural (Henocque), in the production of new compounds or of those peculiar to the disease. All these facts viewed side by side with the impressive clinical lesson which is taught by every case of typhoid, that an excessive waste is taking place, point unmistakably to an excessive but perverted metabolism.

The molecular changes in the cells of many of the tissues of the body which grow out of these chemical ones point with equal clearness to the pathological character of the cellular activity which has existed during the fever. These grosser changes consist chiefly in the production of cloudy swelling of the cells of many glandular organs, and subsequently, in some instances, of fatty degeneration. In muscle-fibres here and there are seen spots of waxy degeneration. Such changes as these are not peculiar to typhoid fever, but are to be found in other diseases when the metabolism of the cells is similarly affected. Not only do anatomical changes thus grow out of the chemical, but the physiological action of many organs is quite as strongly and deleteriously modified. This increased metabolism of fever is supposed, from evidence obtained from pyrexias which have been experimentally produced, to be governed by the nervous system. I know of no evidence to show that the perversions of tissue change which are peculiar to each species of fever are dominated by the same agent. That there are characteristically different metabolic products produced by scarlet fever and small-pox, by typhoid and rheumatism, which produce different forms of intoxication, is undoubtedly true. These peculiarities may be due to the direct action of the poison on the tissues. I do not wish to imply that the sole intoxicant in all fevers is the result of perverted tissue-change, for poisons of extraneous origin undoubtedly often play a prominent part in the production of characteristic symptoms.

Inhibition, or, at least, very great diminution, of tissue-repair is a change quite as important and characteristic of fever as perverted metabolism. Indeed, the total retrograde tissue-change during fever is less than during health, but compared to tissue-repair under the same conditions of diet, rest, etc., it is great. I have often administered to typhoid patients quantities of liquid nourishment as great as would maintain in health an equilibrium of strength, and apparently, judging from the appearance of the stools, the food was properly digested and absorbed; still these patients steadily lost flesh and strength. Under the condition of the fever, there was evidently a greatly lessened appropriation of nourishment.

The pyrexia is undoubtedly almost entirely due to the comparatively excessive tissue-waste, for the mechanisms of heat-dissipation are in no constant state in typhoid fever. Heat-dissipation takes place chiefly from the skin and lungs, and is influenced much by the amount of moisture which is eliminated from these surfaces. But the elimination of the latter varies greatly in different cases, and on different days in the same case, without materially influencing the degree of bodily heat. Compared with the normal state, an excessive heat-radiation always exists in fever.

The blood does not undergo uniformly any morphological changes. In the larger proportion of cases it is probable that a comparative excess of white corpuscles exists. During the height of the disease, often a greater number of corpuscles per cubic centimetre can be counted than is natural. In a word, the blood is more concentrated. During convalescence, on the contrary, the blood becomes less concentrated and the proportion of corpuscular elements is reduced. The concentration of blood does not seem to be dependent on the diarrhœa which is so apt to be profuse, nor upon the hemorrhages, nor upon diaphoresis, for it can be observed even when none of these causes is especially active. This fact has suggested the thought that probably the diminished formation of water within the body, which Flint had pointed out as occurring in fever, may account for the diminished amount of water in the blood. During convalescence the volume of the blood is restored, but the red corpuscles, which undoubtedly are in part destroyed during the active progress of the fever, are not so easily restored, and therefore a true anæmia is produced. Although the corpuscles are apparently more numerous than normal during the height of the fever, their sudden and great reduction in number during convalescence can only be explained by supposing that destruction was going on, although masked by the concentration of the blood. Fibrin does not usually form as abundantly in typhoid blood as in healthy, although this is not a constant or invariable characteristic of it.

During the early and progressive stages of typhoid the peripheral vessels are relaxed and the blood-pressure in them lowered. Whether this change is effected by agents acting indirectly through the nervous system, so that the normal vascular tone is lessened, or by agents acting directly on the vascular walls, it is impossible to say. Probably both the nervous and muscular mechanisms are simultaneously influenced in the same direction. The heart muscle is frequently weakened by degenerative changes, which are the result of a morbid metabolism similar to that taking place in the other tissues of the body. The quickened pulse is shown by Martin to be due to the effect of the heated blood upon the heart itself. The degenerative changes account for the weak and quick pulse which is often noticeable long after the pyrexia has ceased.

The increased frequency of respiration is fully explained by the action of the heated blood upon the respiratory centre. The nasal passages are rarely inflamed, although they are usually dry. The pharynx, and usually the larynx, are in the same condition. The bronchi are almost uniformly more or less inflamed. So usual is this bronchitis that by many it is regarded as due to the typhoid infection. Proof of this, I think, is insufficient, and such an explanation is certainly unnecessary; for the dry

condition of the mouth and throat, and the infrequent acts of swallowing, of coughing, or of otherwise removing what gathers about the larynx, trachea, or bronchi during the period of mental dulness, readily explain many of the cases of true bronchitis. Often the physical signs of a mild bronchitis are present very early. This, I believe, is due to an unnatural dryness of the bronchi rather than to inflammation, and is similar to the change that is observable in the pharynx and mouth. The dryness is the result of diminished secretion by the mucous glands.

When moist râles are heard in typhoid bronchitis they are due to inflammatory exudates. Most of the other changes that occur in the lungs and air-passages are superimposed and complicating diseases, and not direct outgrowths of the fever.

In typhoid fever there is a diminution of normal glandular activity, as a rule. This is well illustrated in glands along the alimentary tract. The dryness of the throat and mouth is too well known to need mention. This is due almost exclusively to the diminished formation of saliva. We possess little experimental evidence of the condition of the secretions in the stomach. The deleterious influence of solid food upon the inflamed intestines is well known. Disinclination for food, and the occasional vomiting of undigested food, point clearly to slow and imperfect digestion. Glujinski, in a moderate number of cases, found by direct examination of the contents of the stomach that hydrochloric acid was wanting except during recovery, but that pepsin was secreted as usual. This change is not due to the pyrexia, evidently, for digestion is not at all uniformly interfered with in chronic pyrexias.

The diminution in the amount of urine during the period of fever, its acidity, high specific gravity, and the increase in the urea and uric acid in it, are changes too well known to need recalling. They are dependent largely, if not wholly, upon the changes that first occur in the general metabolism of the tissues. That they are thus dependent seems evident from the fact that the degree of change in their quantity depends upon the severity and progress of the pyrexia and other general symptoms. They do not depend directly upon the degree of temperature, but change with its permanent fall. On post-mortem examination the kidneys are usually found somewhat enlarged, and their epithelial elements in a state of cloudy swelling. It is probable that these changes are the result of the perverted metabolism which exists in all the tissues, and in the renal among the rest. Necessarily, these changes must interfere more or less with the functional power of the organ. Uric acid and the incompletely oxidized waste-products are increased out of proportion to the urea. Ammonia and kreatinin are voided in increased amounts. The chlorides are usually diminished, and the coloring matters increased. All of these changes are most intense in the first, and early part of the second, week. After this, the urine by degrees becomes more abundant, and the proportion of the constituent elements approaches more nearly the normal. During convalescence it is pale and dilute.

Among the symptoms most uniform in their occurrence are those connected with the nervous system. Indeed, they chiefly characterize the so-called "typhoid state." While there are a large number of cases that present varied mental symptoms, the greatest number are very uniformly characterized. Usually the disease is introduced by headache. This, I believe, is largely the result of changed blood-pressure, and possibly of a commencing change in the nutrition of the brain-tissue. Soon pain ceases, and mental hebetude, or greater or less stupidity, is noticeable. The patient gradually becomes less and less conscious of his surroundings, and when addressed, or requested to make certain motions, responds with slowness, as his mental acts are retarded. Forgetfulness is also a usual characteristic. The stupidity gradually is intensified until a semi-comatose condition is developed. The hebetude is not due to somnolence. It is accompanied by more or less of delirium, which generally shows itself in low mutterings or occasional starts or attempts to rise, that are readily pacified and quickly checked by the attendant.

In a smaller proportion of cases the delirium is persistent, and even violent. I wish particularly to call attention to the marked similarity of these symptoms in their development to those progressively produced in narcotic poisoning. There is a stage of mental sluggishness or torpidity which so far prevents the action of the higher inhibiting centres, that more or less of delirium is produced. This inhibiting may go so far as to permit wild delirium, just as we find in the narcotic poisoning of certain individuals delirium, when ordinarily we would expect stupidity or somnolence. Usually, as the poisoning deepens, more or less complete unconsciousness develops, which rarely passes into actual coma. This progressive poisoning, or narcosis, if we may call it such, is probably the result of the successive involvement of different parts of the brain, and of their varying susceptibility in individual cases to the poisons generated in the course of the fever. Variable phenomena are cutaneous hyperæsthesia, anæsthesia, noise in the head, dizziness, muscular tremors, etc. These are probably due to accidental causes, or to idiosyncrasies of the person, and not directly to the typhoid poison.

But, we ask ourselves, how are the usual mental symptons of typhoid produced? Are they the result of the direct action of the infective agent or cause of typhoid fever, or of some agents produced within the body as a result of the fever and changes incident thereto? Robin has insisted, in answer to this question, that the phenomena are the result of the accumulation in the system of products of unnatural or incomplete tissue-change, which act poisonously upon the nervous system. He would conclude, therefore, that the infecting agent was not the direct cause of the mental symptoms. To substantiate this view he points to the fact that, when the so-called typhoid state develops, there is always a marked diminution of complete tissue-oxidation. The same symptoms and the same pathologico-chemical conditions are observable in other diseases than typhoid fever, as, for instance, at times in pneumonia and rheumatism, although there is no anatomical evidence of a complicating typhoid. The experiments of Robin and deductions therefrom are all the facts that as yet throw light upon the question which we have just asked.

The dry skin of most typhoid patients is the result of the same diminished functional activity that we observe in the glands of the mouth and elsewhere. It is probable that the diminished quantity of water in the system also aids in producing the functional inactivity. A positive cause of the profuse perspiration that is occasionally seen cannot be named. It is quite probable that it is an attempt to vicariously do work which the kidneys cannot accomplish; but it may be the result of the presence in the blood of some sudorific. That the lack of perspiration is due to an active cause, and that it is not a passive effect, is evident, as the hot blood would of itself, in a normal condition of the tissues, be a powerful diaphoretic. An explanation of the characteristic rash is wanting. The rare pustular and furuncular eruptions are undoubtedly produced by superimposed infection. How the typhoid poison is eliminated is problematical. The most natural supposition is that it takes place through the kidneys.

The limits of this paper will not permit a discussion of numerous other variable changes and complications, which are in some instances the result of coincident infection by the poison of other diseases, and in others the result of the peculiarities of susceptibility of organs and tissues in given cases.

We may summarize our conclusions as to the physiological action of the typhoid poison as follows: 1. The cause of typhoid fever produces inflammation of the adenoid bodies in the intestines; and the accompanying

catarrhal inflammation. 2. General symptoms are not the result of the typhoid ulceration of the intestines, but of something (an intoxicant) formed and usually absorbed in the course of the inflammation. 3. The lymphatics are probably the vessels by which the toxic agent is at first chiefly carried from its source. 4. The typhoid poison, presumably by acting upon the nervous system, produces pyrexia, which is the result of increased tissue-change that probably, by the direct action of the poison on the tissues, is perverted in a manner peculiar to the disease and is characterized chiefly by imperfect oxidation. 5. The typhoid poison also inhibits tissue-repair, and therefore produces bodily waste. 6. These tissue-changes result in various anatomical changes, such as cloudy swelling of most glandular organs, waxy or fatty degeneration of many muscles, and destruction of some blood-cells. 7. They also result in various physiological changes, such as diminished secretion from glands, salivary, gastric, hepatic, renal, sudorific, and probably bronchial mucous. 8. The heated blood increases the rapidity of the respiration and of the heart's action. 9. Some of the products of the perverted tissue-changes act toxically to the nervous system, and produce the mental and nervous symptoms characteristic of the disease. 10. Bronchitis is probably the result of irritation of the dry and unprotected membranes by the inspired air. The frequent coincident attacks of catarrhal pneumonia are due to an extension of the bronchitis; croupous pneumonia to superimposed infection; hypostatic engorgement to weakened circulation, respiration, and the prolonged dorsal decubitus. 11. Peritonitis is due to the extension of the original inflammation from the intestines to the peritoneum, or more frequently to perforation of the intestine by ulceration. 12. Parotitis is due to superimposed infection, probably from the mouth, which takes place with especial ease while the gland is functionally inactive. 13. Pustular eruptions are also due to superimposed infection.

## Clinical Department.

### FATAL POISONING BY CHLORATE OF POTASH.

By WILLIAM ANDERSON, M.D.,

BROOKLYN, N. Y.

In view of the wide-spread domestic use of chlorate of potash, and from the fact that fatal cases of poisoning by it are somewhat rare, I consider it useful to report the following case, the first one I have met in nearly twenty years' practice.

Mrs. M——, aged about seventy, in fair health, but suffering from constipation, dissolved nearly one ounce of chlorate of potash in water, and drank it all, thinking it was Rochelle salts. No special disturbance was felt at the time, but the mistake being discovered about an hour after, some mustard and oil were taken, to produce vomiting, which was accomplished. Two hours after the drug had been swallowed I was called in, and found the old lady quite comfortable, suffering no pain or distress of any kind. Being misinformed as to the quantity of the drug used, and believing it to be probably about two drachms, I gave a favorable opinion, prescribed a dose of castor-oil, to be followed by a solution of bismuth. Four hours afterward I was again called, and found the patient in a state of collapse. While defecating, she had fainted. The lips were blue, the tongue of a purplish color, and the face ashen. On rallying a little, she declared she had no pain, but immediately commenced to vomit a profusion of mucus. There was no sign of blood in the discharge. The temperature was 100° F., and the pulse about 100—weak, but not irregular. No oppression of breathing; feet warm. Judging that trouble was to be apprehended from the heart, I prescribed small doses of digitalis and whiskey to be frequently given during the night. She kept quiet and drowsy from this time, 10 P.M., till about 3 A.M., when she went asleep (probably became comatose), and died quietly about 6 A.M., fifteen hours after partaking of the poison. She urinated freely after taking the draught, but I did not get an opportunity to examine the water. As I did not see her during the last eight hours of life, the immediate symptoms preceding death can only be guessed at; but I believe it might be said she died of "heart failure."

### A CASE OF UNUSUAL TOLERANCY OF THE PREGNANT UTERUS.

By CHARLES L. LANG, M.D.,

NEW YORK.

On the 10th of last May I happened to be in S——, a lovely summer-resort in this State. During the day Dr. S——, one of the best local physicians, requested me to see with him a case in consultation. He had begun the treatment three months previously, the patient at that time being a few months past her confinement, which had left her not as well as she wished. The doctor diagnosed subinvolution of the uterus with considerable peri-uterine cellulitis. His treatment had been fairly regular from February to May, and had consisted of local applications to the cervix and fornices, the use of the hot douche, and, as he believed, two very thorough scrapings of the endometrium with Thomas' dull curette.

Arrived at the home of the patient we found Dr. W——, whom the husband had summoned to meet us, as he was not satisfied with the progress his wife was making. After Dr. S—— had repeated the history of the case, we each made a vaginal and bimanual examination of the patient. The uterus was as large as it should be at four months' pregnancy. Then Dr. S—— introduced the curette for the purpose of measuring the depth of the organ, and it passed in easily till the ebony handle blocked up the os. The diagnosis of chronic metritis was reluctantly made, none of us being very clear about the case. Pregnancy would seem to be excluded both by the treatment and the previous history. However, Dr. W—— writes me that the case being left largely to nature, and no more active treatment of the uterus being allowed, she was delivered of a healthy baby late in September.

180 East Seventy-second Street.

### HÆMATEMESIS IN TYPHOID FEVER.

By A. A. GILLETTE, M.D.,

WESTERNVILLE, ONEIDA COUNTY, N. Y.

In The Medical Record of November 16th two cases of intestinal hemorrhage are reported in which blood was vomited, but none passed by the anus.

On August 5th I lost a typhoid-fever case in a similar manner. The patient was a young farmer, about thirty-five years of age. The fever was well marked and typical, with diarrhœa, tympanites, pulse 120, and temperature of 105° F., with slight morning remissions. He was just beginning the third week of fever, and all seemed to be going well, when I was hastily summoned, early on the morning of the above date, to find my patient in a state of collapse. During the previous night, while his bowels were moving, he was suddenly seized with agonizing abdominal pain, followed by increased tympanites and tenderness, and accompanied by a severe chill. His agony was so great that I was sent for at daylight. I found my patient with a pulse so rapid and feeble that it was difficult to count.

Soon after my arrival he began to vomit large quantities of blood. The friends said there had been none in the stools, and this was confirmed by a perfectly bloodless movement a short time before death, which soon followed.

THE MEDICAL RECORD:

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GEORGE F. SHRADY, A.M., M.D., EDITOR.

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**New York, December 28, 1889.**

## THE NON-TUBERCULAR AND NON-CARDIAC HÆMOPTYSES OF ELDERLY PERSONS.

AT a recent meeting [1] of the Medical Society of London, Sir Andrew Clark read a paper with the above title, in which he described a form of pulmonary hemorrhage occurring in persons somewhat past middle age, and which is not associated with any tuberculous or cardiac affection. His attention was first called to this condition many years ago by the occurrence of a fatal case of hæmoptysis in a man between fifty and sixty years of age, who had been admitted to the London Hospital for treatment of a subacute bronchitis. The patient had for several years been the subject of a moderate progressive osteo-arthritis, and for the past four or five winters had suffered from severe bronchitis. It was during one of the latter attacks that he was admitted to the hospital. About two weeks after admission he began to cough up small quantities of blood at short intervals. In spite of rest, restricted diet, the application of ice to the chest, and the liberal use of astringents, the bleeding persisted, and within a week the patient died. At the autopsy the heart was found to be normal, and no evidence of tuberculous disease could be detected anywhere. Within the lungs were seen several isolated patches of emphysema surrounded by hemorrhagic extravasations. Examination under the microscope showed that the seat of the hemorrhage was in the immediate neighborhood of these emphysematous patches, and that the minute arteries in these localities were always diseased, the structural changes being limited to nuclear proliferation in the middle coat, and an amorphous and hyaline infiltration of it and of the intima. The first change, the author believed, occurred in a terminal branch of the pulmonary or bronchial artery, and this resulted in obstruction of the blood-supply throughout a certain territory. Following this was degeneration of the capillaries and venous radicles, determining a true atrophic emphysema, and, the integrity of the vessels being thus impaired, the formation of thrombi or recurrent conditions of pressure brought about the fatal hemorrhage.

Subsequent to this observation, Sir Andrew met with quite a number of similar cases, in all of which the usual treatment by astringents was without effect. Finally he determined to try another method of treatment. In a case which he saw in consultation, after having instituted the ordinary treatment without obtaining an arrest of the hemorrhage, he put the patient upon a light and rather dry diet, gave a dose of calomel at night followed by a saline cathartic in the morning, and ordered an alkaline mixture containing ammonia. This was entirely successful, the bleeding ceased within thirty-six hours, and the patient recovered perfectly.

The following are the author's conclusions in regard to this form of pulmonary hemorrhage:

1. There occurs in elderly persons free from ordinary diseases of the heart and lungs a form of hæmoptysis arising out of minute structural alterations in the terminal blood-vessels of the lung.

2. These vascular alterations occur in persons of the arthritic diathesis, resemble the vascular alterations found in osteo-arthritic articulations, and are of themselves of an arthritic nature.

3. Although sometimes leading to a fatal issue, this variety of hæmoptysis usually subsides without the supervention of any coarse anatomical lesion of the heart or of the lungs.

4. When present, this variety of hemorrhage is aggravated or maintained by the frequent administration of large doses of strong astringents, by the application of ice-bags to the chest, and by an unrestricted indulgence in liquids to allay the thirst which the astringents create.

5. The treatment which appears at present to be the most successful in this variety of hæmoptysis consists in diet and quiet, in the restricted use of liquids, and the stilling of cough; in calomel and salines; in the use of alkalies with iodide of potassium; and in frequently renewed counter-irritation.

[1] British Medical Journal, October 26, 1889.

## COMPULSORY VACCINATION IN THE UNITED STATES.

WITH the exception of Massachusetts, there is, so far as we are informed, no State in this country in which vaccination is directly and specifically required of all children. Practically, however, in most States vaccination is indirectly made compulsory. Dr. Rauch, Secretary of the Illinois State Board of Health, recently made some interesting statements regarding this subject before the Royal Commission on Vaccination (*The Lancet*). Dr. Rauch said that in the army, orders as regards the vaccination of men in regiments were carried into effect on a mere rumor that small-pox existed in some neighboring brigades. Again, during the Chicago fire, when four thousand people were housed in a barrack, the importation of one case of small-pox led to an order that every person should be vaccinated, and all obeyed except "an Englishman," who threatened anyone who should vaccinate his children. Nevertheless they were subjected to the operation, and it may be recorded that, a few weeks afterward, the man, finding his children were saved from small-pox, made an apology for his behavior. In November, 1881, small-pox was on the increase in Chicago and Illinois, and an order was issued for the vaccination of all pupils admitted to public schools in each of the twelve thousand school districts of the State, and in the end six hundred and fifty thousand children were vaccinated in the public and parochial schools. Vaccination is permissive, but school attendance is compulsory, and all attending school are compelled to be vaccinated. And if

small-pox is found in a house the building is "quarantined, placarded up, and everybody vaccinated and revaccinated." Here, in the case of others than school-children, the compulsion is indirect. Those submitting to vaccination are allowed out of their houses, and have certain privileges; those refusing are compelled to remain in-doors under a police requirement. Much the same style of compulsion applies to persons entering the State of Illinois, the unvaccinated being subjected to the operation either before starting for their journey from the port, or in the railway cars during transit. If they refuse —and a case of three Englishmen was cited as to this— they are not allowed to enter the State. In the end, they preferred Illinois and vaccination to being sent back to the place whence they came. Apart, therefore, from compulsion as to school-children, the compulsion as to vaccination in Illinois is actually on a very wide scale, and it mainly comes into operation at times when small-pox is imminent or actually prevalent.

In England the law compels all children to be vaccinated. This arouses a good deal of opposition, and not without reason. It appears to us that the matter is managed much more judiciously and sensibly in this country.

The State has no right to vaccinate a child as long as the child is kept at home and is not a source of public danger. But if the child is to enjoy the benefits of education and the privilege of coming in contact with others, then the State may take precautions and enforce vaccination.

## FLORIDA JOINS THE PROCESSION.

THE question of the State regulation of medical practice is one concerning which some honest difference of opinion exists even within the ranks of the profession itself. An esteemed correspondent has recently offered as an objection to such measures that any attempt to control medical practice is an encroachment upon personal liberty, and he holds that public opinion will of itself, and in its own good time, bring about the elevation of the medical standard of education so that no State interference will be necessary. The same argument might apply equally to bunco-steering and sawdust swindles. There can be no question that public opinion is against such practices, yet few sensible men will deny the right of the State to repress them whenever it has the opportunity. We may admit that society frowns upon dishonesty, that the schools teach morality, and even that the world is growing better every day, but we cannot yet afford to erase all laws from the statute-book, to open the prisons, or to close the courts.

It is possible that a better way to protect the community from the injury done by charlatans and ignorant practitioners than State regulation may yet be found, but at present none other exists in practical shape. Whether that will be effectual can be demonstrated only by a practical experience, and for this reason, if for no other, we are glad to see one State after another falling into line and putting to the crucial test of actual trial the utility of such a measure.

Florida is the latest of the commonwealths to pass a law of this nature. The act provides for the appointment of a board of medical examiners in each Judicial District, and in addition one board of homœopathic medical examiners for the whole State. The members of these boards are to be practising physicians of good standing and graduates of some medical college recognized by the American Medical Association and by the American Institute of Homœopathy, respectively. They are to be appointed by the Governor of the State and are to serve for four years. The boards are to meet twice each year in their respective districts for the examination of candidates and the granting of certificates. The subjects for examination, as specified in the act, are anatomy, physiology, surgery, gynecology, therapeutics, obstetrics, and chemistry; but, strangely enough, no provision is made for materia medica or practice of medicine unless therapeutics can be construed to embrace both these branches. Only those receiving certificates shall be entitled to practise medicine in the State, but those already engaged in practice at the time of the passage of the act need not undergo an examination, the presentation of a diploma from some recognized medical college being sufficient to entitle them to a certificate from the board.

Governor Fleming has requested the State Medical Association, through its president, Dr. R. A. Lancaster, to recommend physicians for appointment on the several examining boards, and it is believed that all the boards will have organized and held their first examination before the beginning of the new year.

It will be seen that this act differs in some respects from those already in force in some of the other States, and it would seem that the framers of the law might have done better had they followed more closely in the footsteps of their predecessors in some other parts of the Union. Nevertheless this is a beginning, and we hope the time is not far distant when every State will have some such law, and we shall then learn whether the community is able or not to protect itself by legislative enactment from the dangers of quackery.

## THE NOTIFICATION OF INFECTIOUS DOCTORS.

THE London *Times* is agitating the subject of placing restraint upon the practice of physicians who are attending infectious diseases. It is urged that the doctor who is attending a case of diphtheria, scarlet fever, whooping-cough, or measles, should not treat at the same time families in which no infectious disease exists. It prints the following remarks of a general practitioner upon this subject:

"He (the doctor) comes across a case of scarlet fever, small-pox, or other infectious disorder; his other patients are needing his visits—a midwifery case may be—and so he goes on with his work until his round is finished. In the evening, surgery work again. Each day brings similar work, only the infectious disorder has become more infectious. Now, how is he to prevent spreading infection, working in the way I have stated? True, he could go home and change his clothes, and in other ways disinfect himself; but does he? Does the conscientious doctor do this? And what about his own household? I certainly think with your correspondent that 'a notification of infectious doctors' is as much wanted as a 'Notification of Infectious Diseases Act.'"

This picture, though much exaggerated, is to some extent true; but unfortunately our social organization is imperfect and we see no radical way of remedying the difficulty. The

plan of having a special physician for infectious cases is utterly impracticable, especially in small towns and the country. It is the duty of conscientious physicians to disinfect themselves and protect themselves as much as possible; and, in fact, we doubt very much if infectious diseases are often carried by physicians to the houses which they visit, oftenest they bring them to their own homes because there they come in close and frequent contact with their children.

Doctors are almost universally careful about taking midwifery patients while attending septic cases, or cases of erysipelas and scarlet fever.

The public notification that a doctor is attending a case of infectious disease would instantly put a stop to their notification of such diseases, or else it would throw ninety per cent. of medical men out of practice.

## News of the Week.

THE HEALTH OF THE PRINCE OF WALES.—The Prince of Wales is said to be in poor health and suffering from great depression of spirits and weakness. It is with great difficulty that he keeps up a show of strength in striving to meet his engagements. All this, together with the rumor that he is suffering from Bright's disease, has it ssignificance.

ANOTHER CASE OF COCAINE POISONING has been reported in Philadelphia.

DEATH OF DR. TRUMAN H. SQUIRE.—Dr. T. H. Squire, widely known as one of the leading surgeons of Western New York, died at his home in Elmira after a long and painful illness. He was born in Russia, N. Y., in 1823, and graduated at the College of Physicians and Surgeons 1848. In 1861 he enlisted as volunteer surgeon in the Union Army, and earned for himself the distinction of being one of the most efficient surgeons in the Army of the Potomac. His name has also been prominently associated with the jointed catheter, which he invented, and for which invention he received the Prix Argenteuil awarded by the Imperial Academy of Medicine of Paris. He was a frequent and valued contributor to medical literature and was an honored member of various medical societies.

THE RUSSIAN EPIDEMIC INFLUENZA.—A St. Petersburg correspondent of the *British Medical Journal* describes the epidemic in that city as follows: "It is frequently spoken of in the lay papers as influenza, but the typical symptoms of this disease are far more frequently absent than present, and the only features in common are the rapid course, the extremely rapid spread, and the frontal headache, the great running at the nose and eyes being absent in all the cases that I have seen. The two most prominent symptoms in the present epidemic are those of high temperature and great frontal headache, accompanied in many cases by pain in the eyeballs, and in all by foul tongue and breath, constipation, and general *malaise*. The onset is rapid, the temperature running up at once to 39°, 40° C., or even higher. The pulse in those cases I have seen is not raised proportionately with the temperature. In some cases there are added the symptoms of catarrh of the nose and frontal sinuses, in others there are sore throat and catarrh of the deeper air-passages, and in many there are vague rheumatic pains about the back shoulders, and limbs. The duration is short, averaging from three to five days, though sometimes prolonged to six or eight days, or even longer, and convalescence is rapid."

THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF MARYLAND proposes to adopt a three years' graded course of instruction, and requires a general average of seventy-five per cent. of those who pass the examinations. The leaven of Johns Hopkins Hospital is working through Baltimore.

MEDICAL REGISTRATION IN NORTH CAROLINA.—The State Board of Health of North Carolina has issued the following: "All physicians in the State must register with the Clerk of the Superior Court before January 1, 1890, if they intend to practise thereafter and collect their fees for services rendered. There will be no subterfuge allowed. The law must be enforced."

A FIRE BROKE OUT IN THE PRESBYTERIAN HOSPITAL of this city on December 19th, and destroyed most of the north wing. Eighty-one patients, who were in this wing, were safely transferred to other institutions, and no lives were lost. The incident showed how generously New York is supplied with hospital accommodations. One hospital offered to take thirty patients, another eighty, another sixty. The fire will not cramp the hospital accommodations of the city. The loss to the hospital is said to be fully covered by insurance.

DR. CHARLES O'DONOVAN, a prominent physician of Baltimore, and President of the Alumni of the Maryland University, died December 23d, of heart trouble.

THE LATE PROFESSOR VOLKMANN AS A POET AND LITTÉRATEUR.—Volkmann was exceedingly skilful and elegant as an operator, he was fertile in resources, and a great inventor of new procedures. His pupils idolized him, for he was not only a teacher who joined the greatest elegance with the highest clearness of diction, but he was, up till his death the students' sincere and warm-hearted friend. In spite of his high rank in society and in the hierarchy of science, he remained a *Bursch* to the last. In Halle many amusing stories are current about Volkmann's good-humor. In the midst of his overwhelming professional work, he found time to gain the laurel wreath of a poet. His *Träumereien an französischen Kaminen*—tales which he sent home to his children during his sojourn in France in 1870 and 1871—were published under the pseudonym "Richard Leander," and had a great success. His *Lieder aus dem Saalethal* added to his literary reputation, and many of his fairy tales, told in the first instance to his own little ones, found their way to the hearts of German children. In Volkmann Halle has lost its chief medical attraction, the German army one of its foremost surgeons, and the art of surgery one of its most brilliant exponents.

THE THREE BROOKLYN FAITH-CURE FANATICS who were arrested for endangering public health by refusing to allow a sick wife and child to have medicine, were convicted, and fined $200, $150, and $100, respectively.

A LARGE BRAIN.—The brain of the insane homicide and suicide Daley was found to weigh fifty-nine and one-quarter ounces, and to show no gross pathological lesions. This is just the weight of the murderer Ruloff's brain; an ounce heavier than Jim Fisk's, and six ounces heavier than Daniel Webster's.

# Correspondence.

## CIVIL SERVICE EXAMINATIONS FOR MEDICAL MEN.

To the Editor of The Medical Record.

Sir: During the weeks which have followed the publication of my letter concerning Civil Service matters in The Record of December 7th, I have received many communications from physicians, both in New York and places far away. The writers have gratified me exceedingly by upholding heartily the position I there took regarding certain municipal medical abuses; and in several instances they referred to other and additional Civil Service obliquities which they had experienced. I wish these gentlemen would publish in this journal the same statements which they have made in private. Such public evidence of approval would doubtless help in abating the abuses of which we are all aware.

To those gentlemen whose kindly messages I have received, but through stress of work have not answered, I take this means of tendering my thanks and my appreciation.

In the latest number of The Record there appear letters from Dr. Frederick Peterson and Mr. G. K. Ackerman. Regarding the first, it interested me, as I had not before heard of the examination in 1884, which this gentleman so creditably passed. However, my paper referred to New York *City* (not State) examinations, and so far as these are concerned my statements were, I think, correct.

Perhaps the profession would have been more interested, and some good might have resulted, if instead of devoting an entire article of more than a column to the details of his examination, and to laudation thereof, the doctor had said just a few words regarding present examinations—inefficient because hasty and not practical—and their accompanying political queernesses.

Regarding Mr. Ackerman: This gentleman, in his communication mentioned, cuts out a portion of my published letter and pronounces it a falsehood. This he does with such emphasis and brevity as to be equivalent to saying "damn!"—and that is all.

The portion to which he refers was, as I stated, simply a quotation on my part, which I have reason for thinking true. How it will surprise and even sadden the doctor who told me how he attained the "Summer Corps," when he learns that Mr. Ackerman contradicts him!

In the *Evening Post* of December 17th is an interview with Mr. Ackerman, in which this gentleman practically admits the more important of the facts alleged, barring the taking of the papers home by the doctor. That is, he admits that a certain few physicians were allowed a special examination a day or two later than the regular one.

If a certain one or two are, as a favor, allowed to take their examination a day or two days later than that of the vulgar herd, and are—as we are informed—asked the same questions as the latter, what fairness is there in this arrangement? Even if different questions are asked, what fairness? It is, for obvious reasons, a simple travesty on a competitive examination, and the political cloven hoof is apparent.

If the men who were allowed a later examination in this instance were *not* asked the same questions as the others, it ought to be easy for Mr. Ackerman to prove this by allowing to reporters free access to the examination-papers written both by these favored doctors, whose names were given in the *Evening Post*, and by the rest of the class.

I have no personal quarrel with Mr. Ackerman. He is probably a politician of much probity; and therefore there are a few points on which, in common with many other physicians, I find myself puzzled.

Will not some other among the professional readers of The Record add his personal quota to the problem under discussion, as, at the request of the editor, I have done?

Robert H. M. Dawbarn, M.D.
345 West Fifty-sixth Street.

## A PROTEST AGAINST THE REMOVAL OF THE UTERINE APPENDAGES.

### A Letter from Dr. Thomas Addis Emmet.

To the Editor of The Medical Record.

Sir: In the issue of The Medical Record for December 21, 1889, my views are not clearly stated in the report on the discussion which followed the reading of Dr. Malcolm McLean's excellent and well-timed paper. Much that I did say is reported accurately, but either I failed to make myself understood, or enough has been omitted to give the impression that I was opposed to the operation for the removal of the uterine appendages.

From the beginning I have been uncompromising in my opposition to the removal of the ovaries for dysmenorrhœa and other nervous disorders, due to perverted or impaired nutrition, and where the fault lies in the nerve-centres. The training of a lifetime to close observation would save me from the error of denouncing any operation until I had clearly defined the grounds for doing so. Mr. Tate introduced a valuable procedure which has its place, but it lies in a more narrow limit than he, or many other operators at the present time, are willing to admit. It is an operation which I never hesitate to recommend, or to perform, when I think it indicated. I have simply opposed at every turn the fearful abuse of the operation which has existed, as a disgrace to the profession and as a reflection on our knowledge of the healing art. No one can deny the fact that there are members of the profession, in this city, who average more than one operation a week for the removal of the uterine appendages. My field of observation is certainly as large as any other operator, and yet I have seen but three cases during the past year when I thought the operation justifiable. I operated on these with the result of restoring two invalids to perfect health, and, I believe, no other procedure could have accomplished so much, while the third case has been but little benefited.

I have had under treatment in my private hospital a number of women where judgment had been passed, by some of our best men in the profession, to the effect that restoration to health was impossible in their condition, unless the uterine appendages were removed. I am within the bounds of truth when I state that more than half of these women have in time gotten well, and several have borne children since their discharge.

To my regret some yielded to outside pressure, and left me to have the operation performed before the necessity, at least from my stand-point, had been determined, and the others have passed away from my observation. Doubtless the greater portion of these women who were restored to health will remain sterile, from obliteration of the tubal canals, but not a single instance of insanity or of melancholia has occurred. Can the same be claimed as the result after the appendages have been removed?

Those who operate so frequently must take the trouble to keep a record of their cases, and report honestly the condition of each individual a year after the operation. Every one in gynecological practice knows that not infrequently he is consulted for relief after this operation has been performed, and where the patient has received no benefit. With not a few the suffering has been greatly aggravated by the formation, it is supposed, of peritoneal adhesions, which have been formed after the operation, and these cases are of far too frequent occurrence to be accidental or exceptions to the rule.

The burden of proof must rest with those who claim so much for the operation, to show that the after-condition of their patients justifies its frequent performance.

If they neglect to vindicate themselves the verdict must be, if it rests on the judgment of others, that while it may prove a source of pecuniary profit to the operator, a very large number of women who have trusted to their honesty have not been benefited, and their condition has been made a more deplorable one. Yours truly,

THOMAS ADDIS EMMET, M.D.

## ANTISEPTICS AND THE COUNTRY DOCTOR.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: It seems as if the whole medical world was going crazy, or is already crazy, on the subject of antiseptics. The poor, miserable bacilli and cocci are hunted down, and starved, and bombarded with all sorts of antiseptics imaginable, from poisonous sublimate solutions to that vilest of all compounds, iodoform. Whether micro-organisms are the result or the cause of disease, it is now the proper thing to deluge the living tissues with all sorts of vile and poisonous substances in the name of antisepsis. I know it requires a great deal of nerve at this age of the world to even doubt aloud, much more, indeed, to put your doubts on paper. I have been a constant reader of THE MEDICAL RECORD for over thirteen years, and must confess that much that appears in it in the way of reports, communications, etc., is well calculated to amuse the country practitioner, if not to instruct him. Labor, originally a purely physiological process, is treated by the great guns of the profession in the cities as though it were pathological. The woman is harassed and tortured with antiseptic injections and antiseptic pads, etc., until she is sorry that she had a baby at all. Our city brethren tell us that nothing should be introduced into the vagina except under antiseptic precautions, as it is dangerous. In miscarriages, abortions, etc., we are told to curette the uterus and inject antiseptic solutions into it to get out all débris, etc. They omit to tell us of the great danger that not infrequently accompanies such a procedure, even death not being unheard of. In ordinary vaginal examinations, again, vaginal injections and the finger made strictly antiseptic is the proper form in the cities. I suppose, next, the act of coition will be proclaimed pathological, and not allowed except under strict antiseptic precautions. May be, in the future, eating and defecation will be subject to the same conditions. In surgery, likewise, the same craze prevails. The most trivial operations are made occult and mysterious and burdened down by elaborate antisepsis. Who shall ever know the number of victims that have been slain in the large cities, in hospital and private practice, on the altar of this Moloch of antisepsis? "Cleanliness is next to godliness," is a good text to go by in obstetrics and surgery. No surgeon should think for an instant of using dirty knives and leaving his hands unwashed in an operation. No obstetrician should think for a moment of attending a woman with dirty or pus-stained hands. Ordinary common-sense would forbid any such thing. In a moderate obstetric practice extending over a period of fourteen years, I never lost but one case, and that from cardiac embolism. I never had but one case of puerperal septicæmia, and then the woman was attended by a midwife. I have delivered by forceps and turning, after women have lain three and four days in labor, attended by ignorant midwives, and under the most unfavorable surroundings, and they all made good recoveries without a set-back. Abortion much the same way. I always used strict cleanliness, and rarely anything more than hot carbolized vaginal injections, and then not often. But I suppose some would say that this is antisepsis; but if it is, it is not antisepsis as it is understood in New York and other large cities. Last year I read the directions for conducting a strictly antiseptic labor by Professor Blank, of New York, and will only say that should the average country practitioner attempt to follow them, he would speedily lose most of his obstetric practice. About the only notice the country doctor gets, in nine cases out of ten, is when labor is in the second stage, or after the child is born, too late for elaborate antisepsis. My experience is the experience of every country practitioner, and there are no statistics to show that the common-sense, intelligent doctor in the country has any poorer results than his antiseptic-saturated brother of the city. In surgery I have never had any cause to feel dissatisfied with my results. I have performed many of the different amputations, extirpation of the breast, operation for strangulated hernia, operations on the rectum, and many more operations such as fall to the lot of the general practitioner, and sometimes I have used corrosive sublimate, carbolic acid, and other antiseptics, and sometimes hot water, and I am compelled to say that I could see no difference, as they all made good recoveries; and I do not recollect now of a case where the temperature went at any time over 99° F. Of course, strict cleanliness was observed in all of these operations. I assisted once at two ovariotomies; one case recovered and the other died on the fifth day after the operation, very suddenly, probably from heart failure. No antiseptics were used in either of these cases, only hot water and thorough sponging out of the peritoneal cavity before closing the incision, and in neither case did the temperature go at any time over 101°, and then for a short time only. I performed once the principal part of the operation of laparotomy for the relief of intestinal strangulation of a week's duration. The surroundings were of the most unfavorable character and no antiseptics were used, but the patient recovered without any unpleasant symptoms, and although the thermometer was ranging from twenty to thirty degrees below zero at the time, the patient was walking out-doors in twenty days after the operation. Strict cleanliness and hot water were of course used, and the peritoneal cavity thoroughly cleansed before closing the wound. Perhaps some of the ultra-antiseptic enthusiasts will claim it was a special dispensation of Providence that the man recovered, others that it was the purity of the climate, etc.; but I am sure there are many country doctors who have exactly the same experiences and think it nothing unusual.

One case more I wish to relate, and that will be sufficient.

Some years ago I was called in the country to see a man, aged fifty-four, who had hurt his knee. On arriving at his house I found the patellar ligament torn across and an external wound almost eight inches in length across the knee, exposing the articular surfaces of the joint. The head of the tibia had been partially broken off and comminuted, loosening a part of the articular cartilage, and the joint was full of dirt and small gravel. The family lived like hogs, and there was not a clean thing in the house. Not knowing the nature of the injuries, I had brought no bandages with me, and it being ten miles from town, I had to make them there. I got a sheet that was so dirty that I had to take it to the spring and wash it myself before I made the bandages out of it. I then cleaned out the joint, removed six pieces of bone, cut off with a scissors all the loose and torn fragments of cartilage, and closed the wound with about fifteen sutures. I used in this case only a weak solution of carbolic acid, and placed the leg on an inclined plane and used a long bandage wet with carbolized water. The man recovered without an unusual symptom and no deformity, and at the end of seven weeks could walk around with the aid of a light cane, without any trouble whatever. Motion was perfect, and the only difference he noticed was that he could not walk upstairs as easily as he could before. Every country doctor who reads this article will, I have no doubt, call to mind similar cases falling within his observation. Had this case been treated in a city with full and complicated antiseptic measures, it would be considered a great triumph of antiseptic surgery.

Gynecological surgeons tell us that antiseptics are useless in the peritoneal cavity, nay, absolutely harmful, and their use has been discontinued. Now if this is so, and I do not doubt for one instant that it is, what is the use

of such an elaborate antisepsis in ordinary operations? I must confess that I do not see any, I know that my experience is not different from others in rural practice in this regard. There is altogether too much slavishness shown to the city brother by the country doctor. It is deemed heretical to differ from the great authorities, and very few ever put their views and experience into print when they differ from the recognized leaders of the profession. Surgery has indeed made wonderful strides in the last few years, and he who stands well as a skilful and successful surgeon has much to be proud of; but I think that success and skill come more from increased knowledge and improved technique and instruments, together with surgical cleanliness, than from poisonous and vile-smelling antiseptics. The greatest surgeons differ as to which is the best antiseptic, some claiming one thing and some another, according to whim or fancy, but they all unite in claiming good results, which in the present state of human nature is not to be wondered at. Just now creolin is the coming antiseptic. In a short time it will be laid aside and some other article will take its place, only soon to be forgotten. Carbolic acid, iodoform, corrosive sublimate, and creolin, have each posed on the surgical stage, and had their admirers and detractors. A few short months, perhaps, will hail the birth of some new antiseptic that will fill a long-felt want, only to be discarded in turn by a new rival for surgical favor. In the midst of this clash of opinions and war of antiseptics, the level-headed, intelligent country doctor will keep on the even tenor of his way, and in the end show as good results as any of them. I have already written too long an article, but if any of my colleagues in the country will feel emboldened by this communication to also express their sentiments through THE MEDICAL RECORD, my highest wishes will be fulfilled.

F. W. VAN DYKE, M.D.

GRANT'S PASS, ORE.

## MALE AND FEMALE RISKS IN LIFE INSURANCE.

TO THE EDITOR OF THE MEDICAL RECORD.

SIR: Allow me briefly to call the attention of those of your readers interested in life insurance, to the very able report of Dr. L. D. Witherill, Supreme Medical Examiner of the "Knights and Ladies of Honor," a well-known fraternal order, dispensing life insurance on the assessment plan.

The information given in this little pamphlet is as interesting as it is manifold; but of chief importance is the result that: "Female risks have proven to be better than male risks."

We quote from pages 7 and 8 of the report:

. . . . . "Our experience during the past eleven years has been that with a larger female membership than males, the former risks have each year shown a smaller percentage of deaths than the latter."

From December 26, 1877, to February 20, 1889, *three thousand* members died. The membership during that period rose from about three thousand in 1878, to about forty-seven thousand in 1888. The number of female was always somewhat larger than that of the male members. Thus, out of a total membership of 22,046 in 1882, 10,448 were male and 11,598 were female members; while in 1888, out of a total membership of 46,935, 22,601 were male and 24,334 were female members.

In spite of this slight preponderance of the so-called weaker sex in numbers, the proportion of deaths was smaller with the latter than with the stronger sex—not only as to the ratio, but as to the actual number, of deaths. Of the 3,000 members who died, 1,601 belonged to the male and 1,399 only to the female sex. The ratio of deaths to membership for the ten years was 11.42 for males and 9.10 only for females, 10.25 being the figure for both together.

Perfectly in conformity with the results just superficially sketched is Dr. Witherill's observation—which he reaffirms with well-deserved emphasis—to wit:

"Evidently the dangers, exposures, and various vicissitudes to which males are subjected, together with the evils of intemperance, more than counterbalance the risks of maternity and the climacteric epoch."

In regard to the latter subject, is is of interest to note that of the 1,399 female deaths, 214 are attributed to "diseases of females." Of these again, 109 are directly due to childbirth (88 died in the puerperal state, 13 during childbirth—7 of these were cases of placenta prævia—the rest from various causes); 85 are cases of cancer of the female sexual organs (womb, 57, ovarian, 8, breast, 20), while the remainder is credited to a variety of diseases of the uterus, its appendages, and the pelvic tissues in general.

Scanning the numerous tables which Dr. Witherill has embodied in his report, the causes of death which in some way counterbalance this large debit on the female side are found to be principally those resulting from diseases of the respiratory organs (pneumonia more especially), of the nervous system, and accidents and suicides.

The number of all deaths by accident was 137; of these 120 were males and 17 females. The number of all suicides was 91; of these 83 were males and 8 were females.

This short synopsis may suffice to call attention to a subject which, I believe, has rarely been treated more ably and explained more clearly on the basis of absolute facts as has been done by Dr. Witherill in his report.

Yours respectfully,

GEORGE W. RACHEL. M.D.

## Army and Navy News.

*Official List of Changes in the Stations and Duties of Officers serving in the Medical Department, United States Army, from December 15 to December 21, 1889.*

ALEXANDER, CHARLES T., Lieutenant-Colonel and Surgeon. By direction of the Secretary of War, will be relieved from duty as medical director, Department of the Columbia, on receipt of this order at the headquarters of that department, and will report in person to the commanding general, Division of the Atlantic, for the purpose of preparing for, and becoming familiar with, the duties of attending surgeon in New York City. He will also, upon his arrival in New York, assume the duties of examiner of recruits in that city.

WATERS, WILLIAM E., Major and Surgeon. Will take temporary charge of the office of medical director, Department of the Columbia, upon the relief of Lieutenant-Colonel Alexander. S. O. 291, A. G. O., Washington, December 14, 1889.

BALL, R. R., First Lieutenant and Assistant Surgeon. Is relieved from temporary duty at Fort Sill, I. T., and will return to his proper station, Fort Riley, Kan. Headquarters Department of the Missouri, Fort Leavenworth, Kan., December 12, 1889. S. O. 182.

MACAULEY, C. N. B., Captain and Assistant Surgeon. With the approval of the Secretary of War, the leave of absence granted in S. O. 166, November 8th, Department of Missouri, is extended one month. Par. 10, S. O. 294, A. G. O., December 18, 1889.

MCCREERY, GEORGE, Captain and Assistant Surgeon (Fort Warren, Mass.). Leave of absence for one month is granted, to take effect upon the arrival at that post, for temporary duty, of Captain Samuel Q. Robinson, Assistant Surgeon. Par. 6, S. O. 289, Division of the Atlantic, December 18, 1889.

ROBINSON, SAMUEL Q., Captain and Assistant Surgeon (Fort Hamilton, N. Y. Harbor). Will proceed without

delay to Fort Warren, Mass., and report to the post commander for temporary duty. Par. 5, S. O. 289, Division of the Atlantic, December 18, 1889.

*Official List of Changes in the Medical Corps of the United States Navy for the week ending December 21, 1889.*

KITE, I. W., Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

STONE, E. P., Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

NORTON, O. D., Assistant Surgeon. Promoted to be a Passed Assistant Surgeon.

HENRY, CHARLES P., Assistant Surgeon. Placed on the retired list.

PICKERELL, GEORGE McC., Assistant Surgeon. Ordered to Navy Yard, Washington, D. C., for temporary duty.

## Medical Items.

CONTAGIOUS DISEASES—WEEKLY STATEMENT.—Report of cases and deaths from contagious diseases reported to the Sanitary Bureau, Health Department, for the week ending December 21, 1889:

| | Cases. | Deaths. |
|---|---|---|
| Typhus fever | 0 | 0 |
| Typhoid fever | 16 | 5 |
| Scarlet fever | 54 | 10 |
| Cerebro-spinal meningitis | 1 | 0 |
| Measles | 55 | 5 |
| Diphtheria | 100 | 24 |
| Small-pox | 0 | 0 |
| Variola | 6 | 0 |
| Pertussis | 0 | 0 |

A REMARKABLE CASE OF MATERNAL IMPRESSION.—In a recent issue of *The Lancet*, Dr. A. R. Paterson describes a case of maternal impression as follows: "I was asked to see a woman in a neighboring village who was being attended by a midwife; the latter, however, being unable to effect delivery by herself, wanted a doctor. On introducing my finger to ascertain the presentation I perceived something unusual—a long, round, and slightly tapering fleshy substance, which struck me at the time as feeling like the shape of an ordinary carrot, but of course not so hard. But to what part of the body this substance was attached was a puzzle, until I discovered what I took to be an ear and the eyes. I then concluded it must be attached to the head. Giving a dose of ergot, and stimulating the uterus by other methods as much as possible, I soon had come into the world what I at once saw was a monster. Instantly wrapping it into the piece of flannel ready to receive it, and without saying a word either to mother or nurse, I carried it into an adjoining bedroom, followed by the latter. Here I found the fleshy substance spoken of to be projecting from the floor of the skull, the roof of which was entirely absent, and so closely did this substance resemble a cow's teat—or, as the nurse called it, 'pap'—that at the same instant we both made the same exclamation, 'How like a cow's teat!' Cautioning the midwife to observe the strictest silence while I questioned the mother, we again proceeded to her room, when I quietly said to her, 'I am sorry to have to tell you, Mrs. C——, that the child is dead, although it breathed a few moments; and perhaps it is as well, because the baby was not "all right."' 'Ah!' said she, 'I thought that such would be the case. What is wrong with it?' I replied, 'Tell me your story first. What caused you to think it would not be "all right?"' 'Well,' she proceeded, 'I got a most awful scare when I was carrying it at the fore part of my time.' Here she paused, but, leading her on by an inquiring Yes?' she went on again, 'One day I was in the cow-house, milking the cow, sitting upon the stool beside her and milking away, when a rat or something in the roof made such a row all at once as to startle the poor animal almost out of her wits, and before I knew where I was she had tumbled me on the floor, milk and all together, and there I was, lying upon my back, still hanging on to the cow's pap like grim death, and thinking that I would be trampled to death every moment. Oh, the scare! I shall never, never forget it! for it made me downright ill and nervous for weeks after it. I could not get it out of my head, and kept dreaming about it even, and I feared all along for my child.' Having thus spoken, she made signs for me to bend down my ear toward her, when she whispered: 'Has it horns upon it, doctor?' Nothing would induce the mother or friends to give up the body of the child, nor would she allow me to touch it further, which caused me the sharpest disappointment. The 'teat' seemed to be a prolongation of the spinal cord, and to be all there was to represent the brain. Otherwise the body was well-developed and perfect."

THE DIFFICULTIES OF THE MEDICAL PROFESSION.—"An Old Doctor" deplores the visible decadence of the profession in a long letter of lamentation in *The Lancet*. Among other things, he says: "In these advertising days, in medicine, as in everything else, people who know little or nothing of a subject, who presume ignorantly to address the public in the daily and weekly press, attract more notice than those who have devoted their lives to their particular work. It is a misfortune that in this country (*i.e.*, England) a very large amount of medical practice (and that the most easy and profitable) is lost to the profession by the fact that almost all chemists prescribe largely. This is a great and crying evil. The practice is, instead of diminishing, largely increasing. This should be stopped. The chemist nearly always prescribes, but generally says, to cover himself, 'If worse, take patient to a medical man.' And so the medical man reaps all the hard work (often without being paid) and the chemist most of the profits. Then, again, hospitals, both special and general, take away largely from the proper, legal, and rightful profits of the profession. The public have a notion that they get advice and medicine of the highest character from the hospitals for nothing, but if they pay for it to the general practitioner they get a second-rate article. This is a bad system. Why not set up legal dispensaries for free legal advice, free places to get married in, free clothing establishments, free meat-stores, etc., all paid for by subscriptions or rates? The fact is, the medical profession is gradually and surely committing suicide, and its career on the downward path should be promptly arrested. If we were true to ourselves (which we are not and never have been) the present increase in the profession would be insufficient to supply the needs of the public. But, if we go on working on the 'sweating system' (for who sweats more, mentally and physically, than the hard-worked medical practitioner, night and day doing his best to preserve the health and life of the people?), often indeed without reward, then we shall be fools indeed. This idea, that medical services can be had for nothing, and so ought to be paid for at that price, is spreading. We are doing away with all professional reserve. We make everything plain, and it is valued accordingly. The more a profession is lowered in the eyes of the public the less respect it receives."

THE BACILLUS OF WARTS.—Dr. Kuhnemann has found in sections of warts (*verruca vulgaris*) a bacillus which is always present in the prickle layer. It has distinctive qualities as regards its capacity for color, and is found both between and in the cells. Its form is that of exceedingly delicate, slender rods, the thickness bearing the proportion to the length of one to six. It is seldom found in the skin surrounding the warts, and is found most plentifully when the wart is recent.

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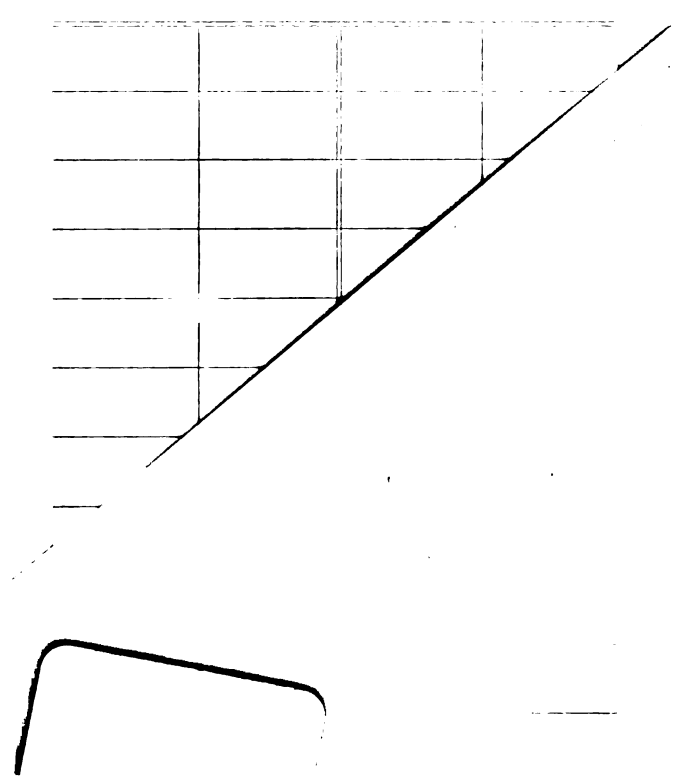

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